United States Department of Agriculture

Forest Service

Northern Region

2015

Land Management Plan

2015 Revision

Kootenai National Forest

Revised Land Management Plan

Kootenai National Forest

Responsible Official: FAYE KRUEGER, REGIONAL FORESTER
200 E. Broadway
P.O. Box 7669
Missoula, MT 59807-7669

For Information Contact: CHRISTOPHER S. SAVAGE, FOREST SUPERVISOR
Kootenai National Forest
31374 US Hwy 2
Libby, MT 59923

Cover Art: Frank Kujawa

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDAs TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202)720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Contents ii
Acronyms vii
Chapter 1—Introduction 1
Purpose of this Land Management Plan 1
Plan Elements 1
Implementing the Forest Plan 2
Consistency with the Forest Plan 2
Retained Forest Plan Direction 4
Inland Native Fish Strategy 4
Grizzly Bear Access Amendment 5
Northern Rockies Lynx Management Direction 5
Plan Structure 5
Maintaining the Forest Plan and Adapting to New Information 6
Relationship to Other Strategic Guidance 6
Rights and Interests 6
About the Kootenai National Forest 7
Distinctive Features of the Kootenai National Forest 8
Chapter 2—Forestwide Direction 11
Introduction 11
Physical and Biological 11
Vegetation 11
Fire 21
Watershed, Soils, Riparian, Aquatic Habitat, and Aquatic Species 22
Wildlife 28
Air Quality 33
Human Uses and Designations of the Forest 33
Access and Recreation 33
Inventoried Roadless Areas 35
Lands and Special Uses 36
Cultural Resources 36
American Indian Rights and Interests 37
Production of Natural Resources 38
Timber 38
Minerals 39
Grazing 40
Special Forest and Botanical Products 40
Economic and Social Environment 40
Social and Economic Systems 40
Cooperation and Community Involvement 41
Chapter 3—Management Area Direction 43
Introduction 43
MA1a—Wilderness 44
Description 44
Desired Condition 44
Standards 45
Guidelines 45
MA1b—Recommended Wilderness 46
Description 46
Desired Condition 47

Standards 47
Guidelines 48
MA1c—Wilderness Study Area 49
Description 49
Desired Condition 49
Standards 49
Guidelines 50
MA2—Eligible Wild and Scenic Rivers 51
Description 51
Desired Condition 53
Standards 54
Guidelines 54
MA3—Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas 55
Description 55
Desired Condition 58
Standards 58
Guidelines 59
MA4—Research Natural Areas 60
Description 60
Desired Condition 60
Standards 61
Guidelines 61
MA5a, 5b, and 5c—Backcountry 62
Description 62
Desired Condition – MA5a, MA5b, and MA5c 62
Standards – MA5a, MA5b, and MA5c 63
Guidelines – MA5a, MA5b, and MA5c 63
MA6—General Forest 64
Description 64
Desired Condition 65
Standards 65
Guidelines 65
MA7—Primary Recreation Areas 66
Description 66
Desired Condition 67
Standards 67
Guidelines 67
Summary of Uses by Management Area 68
Chapter 4—Geographic Area Direction 71
Introduction 71
Geographic Areas 71
Bull Geographic Area 74
Clark Geographic Area 77
Fisher Geographic Area 80
Koocanusa Geographic Area 83
Libby Geographic Area 86
Tobacco Geographic Area 90
Yaak Geographic Area 93
Chapter 5—KNF Monitoring Program 95
Glossary 105

Appendix A—Possible Actions 127
Vegetation Management 127
Fire Management 127
Watershed, Soils, Riparian, Aquatic Habitat, and Aquatic Species 127
Wildlife 128
Access and Recreation 129
Road Construction 129
For Administrative Facilities 130
Lands 130
Cultural Resources 130
American Indian Rights and Interests 130
Timber 131
Minerals 131
Grazing 131
Special Forest Products 131
Social and Economic Systems 131
Appendix B—Summary of Retained Decisions 133
Introduction 133
Inland Native Fish Strategy 133
Riparian Goals 134
Riparian Management Objectives (RMOs) 135
Riparian Habitat Conservation Areas (RHCAs) 137
Standard Widths Defining Interim RHCAs 137
Standards and Guidelines 138
Priority Watersheds 144
Watershed Analysis 145
Watershed Restoration 146
Monitoring 146
Grizzly Bear Access Amendment 146
Design Elements 146
USFWS Biological Opinion Grizzly Bear Related Reporting Requirements 151
USFWS Biological Opinion Terms and Conditions for Bull Trout 151
Northern Rockies Lynx Management Direction 153
Goal 153
All Management Practices and Activities (ALL) 153
Vegetation Management Activities and Practices (VEG) 153
Livestock Management (GRAZ) 156
Human Use Projects (HU) 157
Linkage Areas (LINK) 158
Required Monitoring 159
Lynx Glossary 160
Appendix C—Summary of the Analysis of the Management Situation 165
Vegetation Treatment and Wildlife Habitat 165
Recreation 166
Timber Production 166
Appendix D—KNF Designated Utility Rights-of-Way Corridors, Communication Sites, and Areas Withdrawn from Mineral Entry 169
Minerals 172
Appendix E—Reasonable and Prudent Measures and Terms and Conditions for Grizzly Bear and Canada Lynx 177

Grizzly Bear 177
Reasonable and Prudent Measures 177
Terms and Conditions 177
Canada Lynx 178
Reasonable and Prudent Measures 178
Terms and Conditions 178

List of Tables

Table 1. Desired Range of Snags across all Forested Acres on the KNF by Diameter, Biophysical Setting, and Dominance Group (Range per Acre by Diameter Class) 13
Table 2. Desired Stand Structure, Trees per Acre, and Patch Size for each Biophysical Setting 18
Table 3. Levels of Coarse Woody Debris to Retain after Vegetation Management Activities for each Biophysical Setting 19
Table 4. Snag and Snag Recruitment Levels to retain (where they exist) after Vegetation Management Activities (including Post-harvest Activities), by Harvest Type 20
Table 5. Spawning and Incubation Seasons for Spring and Fall Spawners 28
Table 6. NCDE Recovery Zone Bear Management Units (BMUs) 31
Table 7. Desired Distribution of Forestwide Recreation Opportunity Spectrum Settings (% of KNF) 34
Table 8. KNF Management Areas and Acreages 43
Table 9. Recommended Additions to the National Wilderness Preservation System 46
Table 10. Eligible Wild and Scenic Rivers 51
Table 11. Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas 56
Table 12. Research Natural Areas (RNAs) 60
Table 13. Primary Recreation Areas 66
Table 14. Summary of Generally Allowable or Desired Activities and Uses by Management Area 69
Table 15. Bull GA Management Area Acres 75
Table 16. Clark GA Management Area Acres 78
Table 17. Fisher GA Management Area Acres 81
Table 18. Koocanusa GA Management Area Acres 84
Table 19. Libby GA Management Area Acres 88
Table 20. Tobacco GA Management Area Acres 91
Table 21. Yaak GA Management Area Acres 94
Table 22. Monitoring Program 97
Table 23. Interim Riparian Management Objectives 136
Table 24. Interim Objectives for Pool Frequency 136
Table 25. Alternative E Updated – BMU Status and Selected Standards[1] 147
Table 26. Habitat Conditions for Bears Outside Recovery Zone (BORZ) Occupancy Areas as of Bear Year 2010[1, 2] 151
Table 27. Designated Utility Rights-of-Way Corridors in the KNF 169
Table 28. Designated Communication Sites on the KNF 169
Table 29. Lands Withdrawn from Mineral Entry on the KNF 172

List of Figures

Figure 1. Vicinity Map 7
Figure 2. Desired and Current Forest Composition by Dominance Group at the Forestwide Scale 12
Figure 3. Desired and Current Forest Structure by Size Classes at the Forestwide Scale 12
Figure 4. Desired and Current Forest Composition by Dominance Group for the Warm/Dry Biophysical Setting 14
Figure 5. Desired and Current Forest Structure by Size Classes for the Warm/Dry Biophysical Setting 15
Figure 6. Desired and Current Forest Composition by Dominance Group for the Warm/Moist Biophysical Setting 16

Figure 7. Desired and Current Forest Structure by Size Classes for the Warm/Moist Biophysical Setting.....16
Figure 8. Desired and Current Forest Composition by Dominance Group for the Subalpine Biophysical Setting 17
Figure 9. Desired and Current Forest Structure by Size Classes for the Subalpine Biophysical Setting 17
Figure 10. Kootenai National Forest Geographic Areas (GA) 72
Figure 11. Bull Geographic Area.....73
Figure 12. Clark Geographic Area.....76
Figure 13. Fisher Geographic Area 79
Figure 14. Koocanusa Geographic Area.....82
Figure 15. Libby Geographic Area.....85
Figure 16. Tobacco Geographic Area.....89
Figure 17. Yaak Geographic Area.....92
Figure 18. Designated Utility Rights-of-Way Corridors and Communication Sites on the KNF 171

Acronyms

AMS Analysis of the Management Situation

ASQ Allowable Sale Quantity

ATV All-terrain Vehicle

BLM Bureau of Land Management

BMP Best Management Practices

BMU Bear Management Unit

CFR Code of Federal Regulations

CMAI Culmination of Mean Annual Increment

DBH Diameter Breast Height

DEQ Department of Environmental Quality

EIS Environmental Impact Statement

EPA Environmental Protection Agency

ESA Endangered Species Act

FIS Forest Inventory and Analysis

FSH Forest Service Handbook

FSM Forest Service Manual

GA Geographic Area

HM Head Month

HUC Hydrologic Unit Code

IGBC Interagency Grizzly Bear Committee

INFISH Inland Native Fish Strategy

KIPZ Kootenai-Idaho Panhandle Plan Revision Zone

KNF Kootenai National Forest

LAU Lynx Analysis Unit

LMP Land Management Plan

LTSYC Long-Term Sustained Yield Capacity

MA Management Area

MBF Thousand Board Feet

MCF Thousand Cubic Feet

MMBF Million Board Feet

MMCF Million Cubic Feet

MVUM Motor Vehicle Use Map

NEPA National Environmental Policy Act

NCDE Northern Continental Divide Ecosystem

NFMA National Forest Management Act

NFS National Forest System

OHV Off-Highway Vehicle

PCT Pre-commercial Thin

RHCA Riparian Habitat Conservation Area

RIVPACS River Invertebrate Prediction and Classification System

RNA Research Natural Area

ROS Recreation Opportunity Spectrum

SIO Scenic Integrity Objective

TMDL Total Maximum Daily Load

USDA U.S. Department of Agriculture

USFS U.S. Forest Service

USFWS U.S. Fish and Wildlife Service

WSR Wild and Scenic River

WSA Wilderness Study Area

WUI Wildland Urban Interface

Chapter 1—Introduction

Purpose of this Land Management Plan

The purpose of this Land Management Plan (hereinafter referred to as the "Plan" or "Forest Plan") is to provide direction for the management of the Kootenai National Forest by guiding programs, practices, uses, and projects. For ease of discussion throughout this document, the Kootenai National Forest will be referred to as the KNF or Forest when referencing the single administrative unit, the staff that administers the unit, or the National Forest System (NFS) lands within the unit.

On December 18, 2009 the Department of Agriculture reinstated the 2000 planning rule in the *Federal Register* (*Volume 74, No. 242, Friday, December 18, 2009, pages 67059 through 67075*). The transition provisions of the 2000 Rule (36 CFR 219.35 and appendices A and B) allow use of the provisions of the NFS land and resource management planning rule in effect prior to the effective date of the 2000 Rule (November 9, 2000), commonly called the 1982 planning rule, to amend or revise plans. The KNF elected to use the provisions of the 1982 planning rule for the plan revision. References in this Plan to sections of 36 CFR are to the 1982 planning rule.

The Forest Plan provides guidance for project and activity level decision-making on the KNF for approximately the next 15 years. This guidance includes:

- Forestwide multiple-use goals and objectives, including a description of the desired condition of the KNF and an identification of the quantities of goods and services that are expected to be produced during the planning period, as required by 36 CFR 219.11(b);
- Forestwide standards and guidelines to fulfill the requirements of 16 USC 1604 applying to future activities and resource integration requirements in 36 CFR 219.13 through 219.27;
- Management Area (MA) direction (multiple-use prescriptions) with associated standards and guidelines, including possible actions (see appendix A), as required by 36 CFR 219.11(c);
- Monitoring and evaluation requirements that provide a basis for a periodic determination and evaluation of the effects of management practices, as required by 36 CFR 219.11(d);
- Recommendation of wilderness to Congress, as required by 36 CFR 219.17(a); and
- Determination of suitability and potential capability of lands for resource production (timber and grazing), as required by 36 CFR 219.14 and 219.20.

Plan Elements

Elements of the Forest Plan are:

Goals: Concise statements that describe an overall desired condition the Forest will strive to achieve. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be accomplished. Goal statements form the principal basis from which objectives are developed (36 CFR 219.3). Goals will only be found in the section of the Plan labeled "Goals."

Desired Conditions: These are the social, economic, and ecological attributes that will be used to guide management of the land and resources of the Plan area. Desired conditions are not commitments or final decisions approving projects and activities. The desired condition for some resources may currently exist, or for other resources may only be achievable over a long time period. The Forest may need to make adjustments in the desired conditions if monitoring results indicate they are not achievable in the long term. Budget levels are an important factor in moving towards the desired conditions. Budgets are also directed by program area, with limited flexibility in moving funds between programs. Desired conditions will only be found in the section of the Plan labeled "Desired Conditions."

Objectives: A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals (36 CFR 219.3). The ability to achieve objectives is based on several factors, including annual budgets. Objectives were developed using current budget levels. Objectives that are defined as occurring "over the life of the Plan" are referring to the first 15 years of Plan implementation. Objectives will only be found in the section of the Plan labeled "Objectives."

Standards: Limitation or requirement that is applied to project and activity decision making to help achieve goals and objectives. Standards can be developed for forestwide application or for specific areas and may be applied to all management activities or selected activities. Standards will only be found in the section of the Plan labeled "Standards."

Guidelines: Operational practice and procedure that is applied to project and activity decision making to achieve goals, desired conditions, and objectives. Guidelines can be developed for forestwide application or for specific areas and may be applied to all management activities or selected activities. Guidelines will only be found in the section of the Plan labeled "Guidelines."

Goals, desired conditions, objectives, standards, and guidelines are numbered throughout the Plan for ease in referencing within the Plan, environmental impact statement (EIS), and subsequent project analyses. The numbering begins with the level of direction (FW = forestwide, MA = management area plus the MA number, and GA = geographic area plus the GA name), the resource (for example: AR = access and recreation, TBR = timber), the type of direction (DC = desired condition, OBJ = objective, STD = standard, GDL = guideline), and a unique number (in numerical order).

Implementing the Forest Plan

The KNF Forest Plan provides a framework and text that guides resource management. It is a strategic, programmatic document and does not make project-level decisions or irreversible or irretrievable commitments of resources. Those kinds of commitments are made after more detailed, site-specific analysis and further public comment as part of the site-specific National Environmental Policy Act (NEPA) process.

The National Forest Management Act (NFMA) requires that permits, contracts, and other instruments for use and occupancy of NFS lands be consistent with the Forest Plan.

The Forest Service will also follow laws, regulations, and policies that relate to managing NFS land. The Forest Plan is designed to supplement, not replace, direction from these sources. Other Forest Service direction, including laws, regulations, policies, executive orders, and Forest Service directives (manual and handbook), are not repeated in the Forest Plan.

Consistency with the Forest Plan

As required by NFMA and the planning rule, subject to valid existing rights, all projects and activities authorized by the Forest Service must be consistent with the applicable plan components (16 U.S.C. 1604(i)) as described at 36 CFR 219.15 of the 2012 Planning Rule. (Although the transition provisions at 36 CFR 219.17 of the 2012 Planning Rule allow revision of this Plan under the 1982 regulations, subsequent projects or activities approved on units with plans revised under a prior planning rule must comply with the consistency requirement at 219.15 of the current rule).

Ensuring Project or Activity Consistency with the Forest Plan—where a proposed project or activity would not be consistent with Plan direction, the responsible official has the following options:

1. To modify the proposal so that the project or activity will be consistent;

2. To reject the proposal; or

3. To amend the Plan so that the project or activity is consistent with the Plan as amended. The amendment may be limited to apply only to the project or activity and may be adopted at the same time as the approval of the project or activity via project specific environmental analysis and public involvement (36 CFR 219.10(f)).

The following paragraphs describe how a project or activity is consistent with Plan elements and the requirements for documenting consistency.

Goals and Desired Conditions: Because of the many types of projects and activities that can occur over the life of the Plan, it is not likely that a project or activity can maintain or contribute to the attainment of all goals and desired conditions, nor are all desired conditions relevant to every activity (i.e., recreation desired conditions may not be relevant to a fuels treatment project). Most projects and activities are developed specifically to maintain or move conditions toward one or more of the desired conditions of the Plan. It should not be expected that each project or activity will contribute to all desired conditions in a plan, but usually to one or a subset.

To be consistent with the goals and desired conditions of the Forest Plan, a project or activity must be designed to meet one or more of the following conditions:

1. Maintain or make progress toward one or more of the desired conditions of the Plan without adversely affecting progress toward, or maintenance of other desired conditions; or

2. Be neutral with regard to progress toward Plan desired conditions; or

3. Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward or maintenance of one or more desired conditions in the short term; or

4. Maintain or make progress toward one or more of the desired conditions over the long term, even if the project or activity would adversely affect progress toward other desired conditions in a minor way over the long term.

The project documentation should identify which of these four criteria are being met and how they are being met.

Objectives: A project or activity is consistent with the objectives of the Forest Plan if it contributes to or does not prevent the attainment of any other applicable objectives. The project documentation should identify any applicable objective(s) to which the project contributes. If there are no applicable objectives, project documentation should state that fact.

Guidelines: A project or activity must be consistent with all guidelines applicable to the type of project or activity and its location in the Plan area. A project or activity is consistent with a guideline in either of two ways:

1. The project or activity is designed in accordance with the guideline, or;

2. A project or activity design varies from the guideline but is as effective in meeting the intent or achieving the purpose of that guideline.

The project documentation will describe how the project is consistent with the relevant guideline(s). When the project design varies from the exact wording of a guideline, project documentation must specifically explain how the project design is as effective in contributing to the maintenance or attainment of the guideline. Under this circumstance, a plan amendment is not required. However, if a project or activity is not designed to comply with the intent or purpose of a guideline, an amendment to the Forest Plan is required.

Standards: A project or activity is consistent with a standard if the project or activity is designed in exact accordance with the standard. The project documentation must confirm that the project is consistent with applicable standards. Deviation from standards requires an amendment to the Forest Plan.

Retained Forest Plan Direction

The KNF is including the direction from the following decisions with their associated biological opinions:

- Inland Native Fish Strategy (INFISH) – Decision Notice and Finding of No Significant Impact (USDA Forest Service, July 1995)
- Forest Plan Amendments for Motorized Access Management Within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones – Record of Decision (USDA Forest Service, November 2011)
- Northern Rockies Lynx Management Direction – Record of Decision (USDA Forest Service, March 2007)

This retained direction (desired conditions, standards, and guidelines) can be found in appendix B of this Forest Plan. Copies of the Records of Decision and associated biological opinions for these retained decisions are available on the web at http://www.fs.usda.gov/main/kootenai/landmanagement/planning

The direction within these retained decisions will have the same definitions as defined in this Forest Plan (see pages 9 and 10). Projects and activities must be consistent with the direction within these decisions. Following is an explanation of these decisions and the direction retained.

Inland Native Fish Strategy

The Inland Native Fish Strategy (INFISH) amended the forest plans of 22 national forests in eastern Oregon, eastern Washington, Idaho (including the Idaho Panhandle NFs), western Montana (including the Kootenai NF), and portions of Nevada when it was signed in 1995. This decision is retained in the revised Forest Plan through standard FW-STD-RIP-03. The standard also identifies modifications to the INFISH amendment for the revised Forest Plan.

INFISH includes riparian goals, riparian management objectives, and “standards and guidelines.” Riparian goals and riparian management objectives are defined on page II-12 of the Inland Native Fish Strategy Environmental Assessment (USDA Forest Service 1995). “Standards and guidelines” are not defined except to state they were developed and describe where they were to be applied. The definition of riparian goals is consistent with the definition of “goals” on page 9 of this Forest Plan. The definition of riparian management objectives is consistent with the definition of “desired conditions” in the Forest Plan rather than the definition of “objectives.” The Forest Plan thus defines the riparian management objectives as “desired conditions.”

Unlike the Forest Plan, which has specific definitions for standards (limitation or requirement that is applied to project and activity decision-making to help achieve goals and objectives) and for guidelines (operational practice and procedure that is applied to project and activity decision-making to achieve goals, desired conditions, and objectives), INFISH blends them into "standards and guidelines." Most of the INFISH "standards and guidelines" fit the guideline category of "operational practices or procedures." However, some INFISH "standards and guidelines" are "limitations or requirements," particularly those that prohibit certain activities. The Forest Plan thus defines the following INFISH "standards and guidelines" as standards: TM-1, MM-3, MM-4, MM-5, and RA-4. All others are defined as guidelines.

In response to the Reasonable and Prudent Measures in the biological opinion as well as the need for change for the revised Forest Plan (developing restoration strategies), INFISH Priority Watersheds have been added to and adapted into Conservation and Restoration watersheds. Furthermore, in INFISH, the description for Category 4 under Standard Widths Defining Interim RHCAs is different for Priority Watersheds (Category 4 (d)) and those not identified as Priority Watersheds (Category 4(e)). The Forest Plan now uses a consistent description for all watersheds (Category 4 (d); see the glossary).

Through adoption in this revised Forest Plan, this direction is no longer considered "interim", but will be effective over the life of the Plan (or until the Forest Plan is amended for this direction).

Grizzly Bear Access Amendment

The Access Amendment set standards for motor vehicle use (excluding over-snow vehicle use) within the Cabinet-Yaak and Selkirk Recovery Zones bear management units (BMUs) along with administrative use levels and timelines. The Access Amendment also set standards for linear miles of open and total road for areas outside the recovery zones that are experiencing recurring use by grizzly bears (i.e., Bears Outside of Recovery Zones or BORZ (p. 5 of the ROD for the Access Amendment)). This decision is retained in this Forest Plan through standard FW-STD-WL-02. The use of the term "standards" in the Access Amendment is consistent with the definition of "standard" found on page 10 of this Forest Plan.

Northern Rockies Lynx Management Direction

The Northern Rockies Lynx Management Direction (NRLMD) amended the existing forest plans of all national forests in the Northern Rockies Lynx Planning Area. The NRLMD contains goals, objectives, standards, and guidelines, all of which are defined on page 7 of the NRLMD ROD. This decision is retained in this Forest Plan through standard FW-STD-WL-01. The use of the terms "goals," "standards," and "guidelines" in the NRLMD is consistent with the definitions of these terms found on pages 9 and 10 of this Forest Plan. The definition of "objectives" in the NRLMD is consistent with the definition of "desired conditions" in the Forest Plan rather than the definition of "objectives." The Forest Plan thus defines the NRLMD "objectives" as "desired conditions." The NRLMD was intended to be in effect for 10 years beginning in 2007. This revised Forest Plan extends the timeframe for this amendment to include the life of the Forest Plan (or until the Forest Plan is amended for this direction), rather than allowing the NRLMD to expire in 2017.

Plan Structure

An Analysis of the Management Situation (AMS) and AMS Technical Report were completed to describe the historic and current conditions for the Kootenai and Idaho Panhandle Planning Zone (KIPZ) and establish the need for revising management direction. Revision topics identified in the AMS include: Vegetation, Fire Risk, Timber Production, Wildlife, Watersheds and Aquatic Species, Inventoried Roadless Areas, and Recommended Wilderness Areas, and Access and Recreation. These topics are addressed by the Forest Plan. A summary of the AMS is included in appendix C.

This Forest Plan is organized into several major divisions:

- Acronyms
- Chapter 1—Introduction
- Chapter 2—Forestwide Direction
- Chapter 3—Management Area Direction
- Chapter 4—Geographic Area Direction
- Chapter 5— Monitoring and Evaluation
- Glossary
- Appendices
- Appendix A —Possible Actions
- Appendix B—Summary of Retained Decisions
- Appendix C—Summary of the Analysis of the Management Situation
- Appendix D—KNF Designated Utility Rights-of-Way Corridors, Communication Sites, and Areas Withdrawn from Mineral Entry

Maintaining the Forest Plan and Adapting to New Information

The Forest Plan is an integral part of an adaptive management cycle that guides future management decisions and actions. Adaptive management includes:

- Defining measurable management objectives;
- Monitoring management outcomes and changing circumstances; and
- Revising management strategies accordingly.

This adaptive management cycle enables the Forest to identify and respond to changing conditions, changing public desires, and new information, such as that obtained through research and scientific findings. The Forest's monitoring program is an integral part of this adaptive management cycle, consisting of monitoring questions and performance measures. The monitoring evaluation report will indicate whether or not a change to the Forest Plan may be warranted, based on new information.

Relationship to Other Strategic Guidance

The Kootenai National Forest (KNF) contributes to the accomplishment of national strategic guidance in accordance with its own unique combination of social, economic, and ecologic conditions. This Forest Plan helps define the Forest's role in advancing the agency's national strategy and reflects the national goals, which are based on the Government Performance and Results Act (GPRA 1993).

This Forest Plan is reflective of the mission of the Forest Service, which is "to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations." The mission statement is captured by the phrase, "Caring for the land and serving people."

Rights and Interests

The Forest Plan provides a strategic framework that guides future management decisions and actions. As such, the Forest Plan does not create, authorize, or execute any ground-disturbing activity. The Forest Plan does not grant, withhold, or modify any contract, permit, or other legal instrument. It does not subject anyone to civil or criminal liability and creates no legal rights. The Forest Plan does not change existing permits and authorized uses.

About the Kootenai National Forest

The KNF is located in the northwest corner of Montana (figure 1) and includes about 2.2 million acres of public land. The Forest administers the entire proclaimed Kootenai and a portion of the Kaniksu National Forest. The KNF is divided into five ranger districts: Rexford, Fortine, Three Rivers, Libby, and Cabinet.

Two large rivers, the Kootenai and the Clark Fork, along with several smaller rivers and their tributaries are major features of the Forest. The Whitefish Range, Purcell Mountains, Bitterroot Range, Salish Mountains, and Cabinet Mountains are all part of the rugged terrain radiating from the river valleys. In the north-central part of the Forest, the land is more open with gently rolling forested hills lying in the shadows of the Whitefish Range.

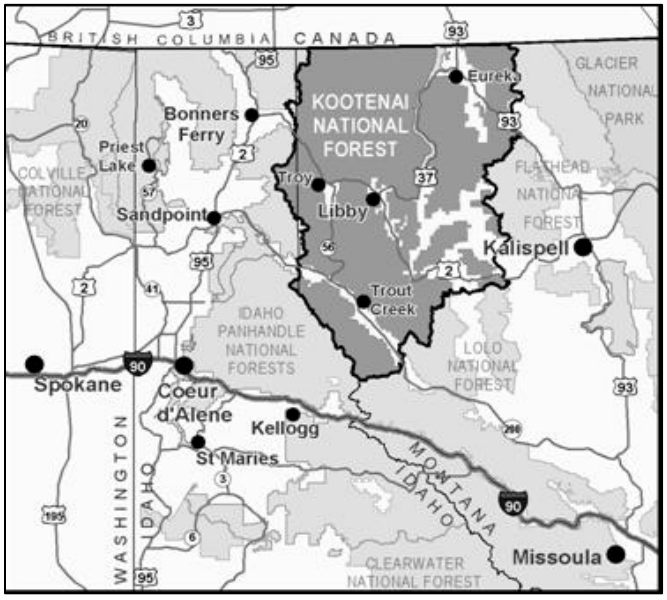


Figure 1. Vicinity Map

The KNF contains some of the most diverse and productive forests in the Northern Region of the Forest Service. It is the home of many rare plant and animal species, and it provides a diversity of aquatic and terrestrial habitat. Grizzly bear, Canada lynx, and bull trout are examples of some of these species.

The principal population centers within the KNF are Libby, Troy, Eureka, and Trout Creek, Montana. Smaller communities that have social, economic, and historic ties to the KNF include Fortine, Trego, Stryker, the Yaak community, Rexford, Noxon, and Heron. The nearest large urban areas, Spokane, Washington, Missoula and the Flathead Valley in Montana, have a social and economic influence on the local communities. The majority of land administered by the KNF is located in Lincoln and Sanders counties in Montana. Smaller portions of land are also found in Flathead County in Montana and Boundary and Bonner counties in Idaho.

Abundant recreation opportunities exist in the KNF. Visitors come from across the nation, as well as Spokane, Missoula, and local communities to fish and boat the numerous rivers and lakes. Other popular recreation activities include hiking, biking, sightseeing, hunting, off-highway vehicle (OHV) use, rock climbing, recreational prospecting, snowmobiling, skiing, and gathering forest products. This visitation and recreation is important to the local economy and is a major reason people choose to live in this area.

The KNF has productive forest lands that contribute to the local and regional supply of forest products and are an important contributor to the local economy. Managing vegetation and fuels, and the production

of resources, such as timber, mining and grazing, contribute to people's livelihoods and remains one of the cornerstones of this Forest.

The landownership pattern in and near the KNF provides many opportunities for collaborative planning and partnership opportunities. The Forest is within and/or encompasses portions of the wildland urban interface, private, state, county, or other federal land, as well as rural communities and population centers. This ownership pattern provides opportunities for people with different interests and values to come together to work toward managing the resources in ways that consider all values and uses of the Forest.

Distinctive Features of the Kootenai National Forest

The KNF considers people to be an integral part of the forest environment. It is committed to balancing the need to conserve and sustain natural resources while providing for people's demands for products and services, now and in the future.

The KNF also provides key ecosystem services, or benefits people obtain from ecosystems. These benefits include provisioning services, such as the delivery of wood fiber, botanical products, and fresh water; regulating services such as carbon sequestration, erosion control, water purification, and pollination; cultural services, such as recreational, educational, and spiritual values; and supporting services, such as soil formation and nutrient cycling. These services are vital to human health and livelihood.

The unique qualities of the Forest and its ability to provide ecosystem services characterize the roles and contributions of the area. Understanding these roles and contributions help to set realistic and achievable desired conditions which are the basis for management direction over the next 15 years (the life of the Plan).

In addition to the multitude of resource outputs and ecological, social, and economic outcomes described in chapter 2 of this Forest Plan, the KNF has some important and distinctive roles and responsibilities including:

Wildland Urban Interface (WUI): Approximately 30 percent of the KNF is within the WUI. This provides the Forest significant opportunities to partner with landowners and other jurisdictions to improve forest health conditions and reduce the risk of wildfire. Recognizing community wildfire protection plans and working in cooperation with counties is an important part of public safety and the Forest's fuels reduction program.

Wildlife and Fisheries: The KNF is the home of several animal and fish species listed under the Endangered Species Act as threatened and endangered. Grizzly bear, Canada lynx, bull trout, and white sturgeon are examples of some of these listed species. In addition, the KNF consists of a diversity of vegetative communities that provide habitat for a wide array of other wildlife species. Coordination and cooperation with the U.S. Fish and Wildlife Service, Montana Fish Wildlife and Parks, and American Indian nations (including the Kootenai Tribe of Idaho, the Kalispel Tribe, the Coeur d'Alene Tribe, the Spokane Tribe, and the Confederated Salish, and Kootenai Tribes) is an important part of management activities. Information from the Montana Comprehensive Fish and Wildlife Conservation Strategy was used and incorporated into supporting analysis for this Forest Plan.

Shared Border with Canada: The KNF shares an international boundary with Canada. Following statutory mandates, the U.S. Border Patrol has an active role in patrolling NFS lands adjacent to Canada. The U.S. Border Patrol performs law enforcement activities on the KNF to prevent illegal entry into the United States and provides for national security. To perform these functions, the U.S.

Border Patrol requires access to remote areas on the Forest. The KNF has an important role in working with the Border Patrol on issues associated with access for law enforcement activities.

Tribal and Cultural Interests: The Confederated Salish and Kootenai Tribes and the Kootenai Tribe of Idaho are very involved in consultation regarding the management of the KNF and the Forest enjoys productive working relationships with these Tribes. These Tribes have reserved treaty rights, which entitle them to hunt, fish, gather, and graze livestock in the Forest. In addition, Tribes having aboriginal territory on the Forest (including the Coeur d'Alene, Kalispel, and Spokane Tribes) have consultation opportunities.

Percentage of NFS land in the Counties: The KNF has a distinctive role with its counties, particularly Lincoln County, because of the preponderance of NFS lands. Approximately 72 percent of Lincoln County is public land administered by the KNF (small portions of the county are administered by neighboring national forests, comprising an additional 3 percent of NFS management). Because of the large percentage of KNF administered lands, there is a distinct relationship between forest management and local communities within Lincoln County. This presents the KNF with a responsibility for management of the resources while addressing effects to local communities.

Kootenai River: The Kootenai River is a prominent feature on the KNF. This river basin extends from the north in Canada, through the KNF, and west into Idaho. The construction of Libby Dam, completed in 1972, created the 90-mile long Lake Koocanusa reservoir, of which 48 miles is within KNF borders. The Kootenai River white sturgeon, an endangered species, is found in this river basin below the dam. There is a community interest-based watershed group, consisting of individuals from Montana, Idaho, and British Columbia, that has an interest in the management of the Kootenai River Basin. Their mission is to involve stakeholders in the protection and restoration of the chemical, physical, and biological integrity of the Kootenai River Basin waters. With such a large percentage of NFS lands in the Kootenai River Basin, the KNF has an important role in working with this community group.

Minerals: The KNF is home to world-class minerals deposits. These mineral resources are regionally and nationally important, contributing to supplies in response to worldwide demands while generating local jobs and income. The Forest has one operating silver mine (the Troy Mine near Troy, Montana) and two copper and silver mines in planning stages (the Rock Creek and Montanore Mines).

Unique Recreation Areas: The KNF provides a broad range of recreational opportunities, some of which are associated with special or unique areas. These areas include: the Cabinet Mountains Wilderness Area, the Ten Lakes Scenic Area and Wilderness Study Area, and the Turner Mountain Ski Area. Lake Koocanusa and the surrounding area provide a wide array of lake based recreation activities. Many smaller areas provide unique opportunities for forest visitors, from viewing large trees (Ross Creek Cedars Scenic Area) to panning for gold (Libby Creek Gold Panning Area).

Chapter 2—Forestwide Direction

Introduction

This chapter contains direction that applies forestwide, unless more stringent or restrictive direction is found in chapter 3 or chapter 4. Forestwide direction includes goals, desired conditions, objectives, standards, and guidelines. Additional direction can be found in appendix B, Summary of Retained Decisions. Other Forest Service direction including laws, regulations, policies, executive orders, and Forest Service directives (manual and handbook) are not repeated in the Forest Plan.

The chapter is organized by resource, under the following four major categories:

- Physical and Biological Elements
- Human Uses and Designations of the Forest
- Production of Natural Resources
- Economic and Social Environment

To describe anticipated outcomes from implementing the revised Forest Plan, objectives were developed based on current budget levels. Budgets are expected to remain flat or decrease in the future. To develop objectives without consideration of expected budgets would be a misrepresentation of expected outcomes. Within the objectives, any reference to "over the life of the Plan" is referring to the first 15 years of forest plan implementation.

Physical and Biological

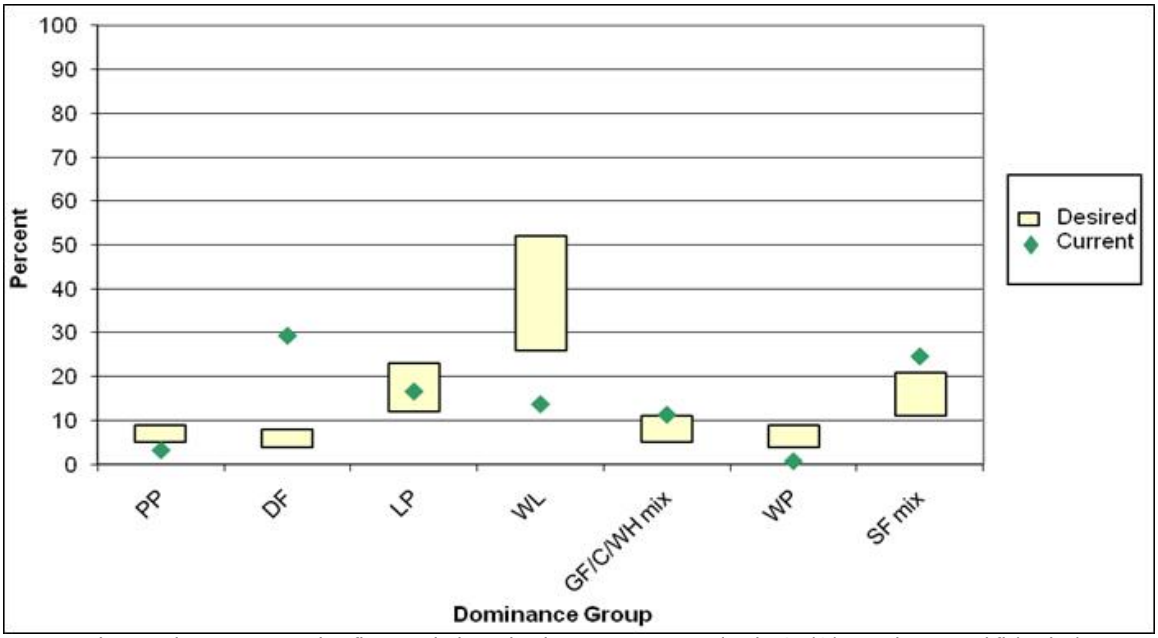
Vegetation

Goals

GOAL-VEG-01. Plant communities are trending toward the desired conditions for composition, structure, patterns, and processes. The ecological integrity of the communities is high and they exhibit resistance and resiliency to natural and man-caused disturbances and stressors, including climate change.

Desired Condition

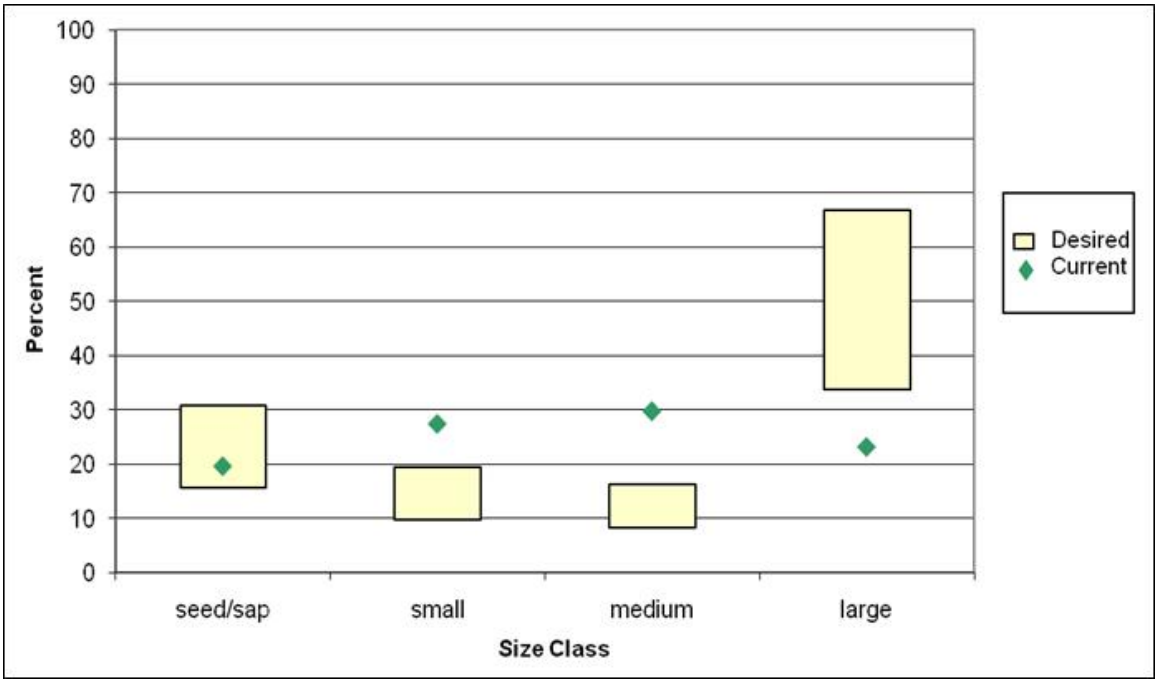
FW-DC-VEG-01. The composition of the forest is within the desired ranges for the dominance groups illustrated in figure 2. More of the forest is dominated by western white pine, ponderosa pine, western larch, and whitebark pine. Conversely, less of the forest is dominated by grand fir, western hemlock, western redcedar, Douglas-fir, and subalpine fir. Although they are not depicted in figure 2, more hardwood trees occur in the Forest such as quaking aspen, black cottonwood, and paper birch.



PP = ponderosa pine; DF = Douglas-fir; LP = lodgepole pine; WL = western larch; GF/C/WH mix = grand fir/cedar/western hemlock mix; WP = white pine; and SF mix = subalpine fir mix

Figure 2. Desired and Current Forest Composition by Dominance Group at the Forestwide Scale

FW-DC-VEG-02. The structure of the forest is within the desired ranges for each size class illustrated in figure 3. More of the forest is dominated by stands occurring in the large size class. Less of the forest is dominated by stands that occur in the small and medium size classes.



Seed/sap = 0–5” DBH trees, small = 5–10” DBH trees, medium = 10–15” DBH trees, and large = greater than 15” DBH trees

Figure 3. Desired and Current Forest Structure by Size Classes at the Forestwide Scale

FW-DC-VEG-03. The amount of old growth increases at the forestwide scale. At the finer scale of the biophysical setting, old growth amounts increase for the Warm/Dry and Warm/Moist settings while staying close to the current level for the Subalpine setting. Relative to other tree species, there is a greater increase in old growth stands that contain substantial amounts (i.e., 30% or more of the total species composition) of one or more of the following tree species: ponderosa pine, western larch, western white pine, and whitebark pine. Old growth stands are more resistant and resilient to disturbances and stressors such as wildfires, droughts, insects and disease, and potential climate change effects. The size of old growth stands (or patches of multiple contiguous old growth stands) increase and they are well- distributed across the five Geographic Areas on the Forest.

FW-DC-VEG-04. Tree densities and the number of canopy layers within stands are generally decreased.

FW-DC-VEG-05. The pattern of forest conditions across the landscapes consists of a range of patch sizes that have a diversity of successional stages, densities, and compositions. Formerly extensive, homogenous patches of forests that are dominated by species and size classes that are very susceptible to disturbance agents have been diversified. Generally, there is an increase in the size of forest patches dominated by trees in the seedling/sapling size class, as well as in the large size class. There is a decrease in the size of the patches that are dominated by trees in the small and medium size classes.

FW-DC-VEG-06. Root disease fungi, such as *Armillaria* and *Phellinus*, are killing fewer trees as the composition of the forests trends toward less susceptible tree species such as: western larch, ponderosa pine, and western white pine. Forest insects, such as Douglas-fir bark beetle, mountain and western pine beetles, fir engraver beetle, and the western spruce budworm, are generally causing less tree mortality. Impacts from the non-native fungus that causes the white pine blister rust disease are reduced as the abundance of rust-resistant western white pine and whitebark pine increases.

FW-DC-VEG-07. Snags occur throughout the forest in an uneven pattern, provide a diversity of habitats for wildlife species, and contribute to the sustainability of snag dependent species. Snag numbers, sizes, and species vary by biophysical setting and dominance group. Table 1 displays the desired range of snag densities. Over time, the number of large-diameter snags (20 inches in DBH or greater) increases in all biophysical settings.

Table 1. Desired Range of Snags across all Forested Acres on the KNF by Diameter, Biophysical Setting, and Dominance Group (Range per Acre by Diameter Class)

Dominance Group	Biophysical Setting	Greater than 10 inches DBH	Greater than 15 inches DBH	Greater than 20 inches DBH
All except lodgepole pine	Warm/Dry	3.3 to 15.9	1.0 to 6.1	0.3 to 2.2
	Warm/ Moist	6.3 to 17.1	2.4 to 7.2	0.5 to 2.6
	Subalpine	11.1 to 25.1	2.9 to 6.5	0.5 to 2.1
Lodgepole pine	All	3.6 to 14.0	0.5 to 4.3	0.1 to 1.1

FW-DC-VEG-08. Down wood occurs throughout the forest in various amounts, sizes, species, and stages of decay. The larger down wood (i.e., coarse woody debris) provides habitat for wildlife species and other organisms, as well as serving important functions for soil productivity.

FW-DC-VEG-09. Habitat for plant species listed under the Endangered Species Act (ESA) is maintained or restored on NFS lands, thus contributing to species recovery or delisting. Ecological

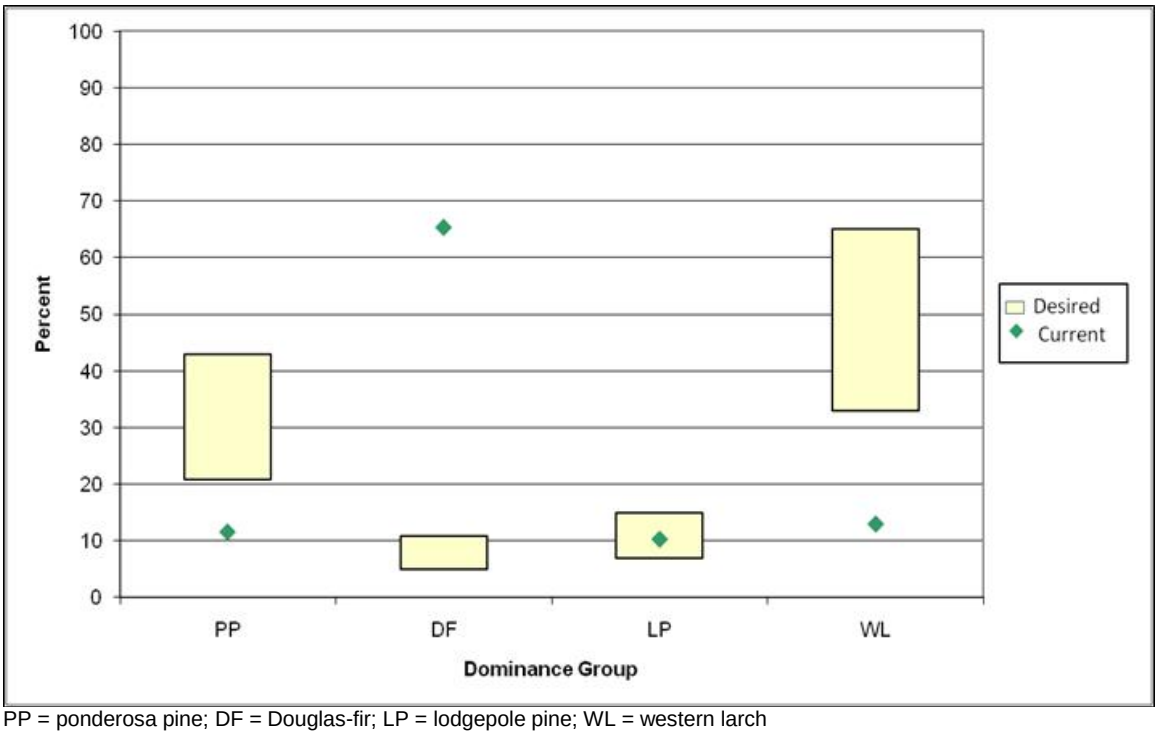
conditions and processes that sustain the habitats currently or potentially occupied by sensitive plant species are retained or restored. The geographic distributions of sensitive plant species in the Forest Plan area are maintained.

FW-DC-VEG-10. Newly invading, non-native invasive plant species are treated and populations are contained or eradicated. The weed program on the Forest uses integrated pest management approaches, including prevention and control measures that limit introduction, intensification, and spread due to management activities. Agreements with cooperative weed management areas assist control efforts across jurisdictional boundaries.

FW-DC-VEG-11. The desired forest composition, structure, and pattern for each biophysical setting are described below:

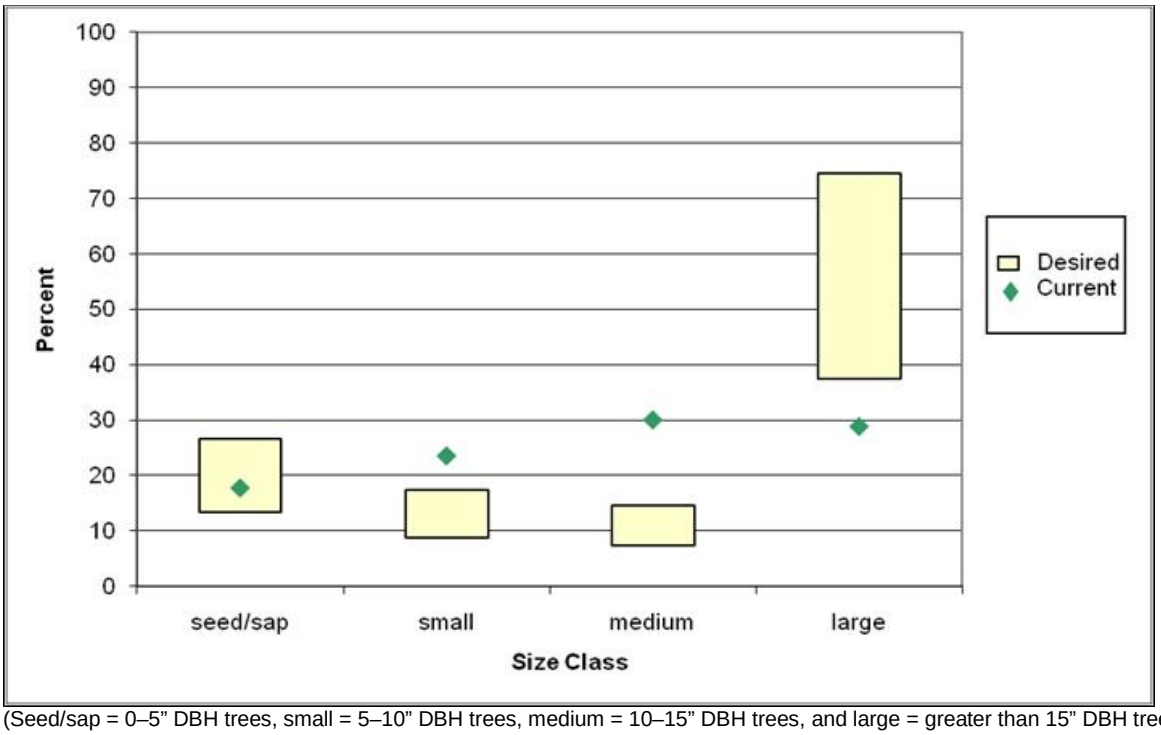
Warm/Dry – This biophysical setting includes the warmest and driest sites that support forest vegetation.

The desired and current condition for dominance groups and size classes are displayed in figure 4 and figure 5, respectively.



PP = ponderosa pine; DF = Douglas-fir; LP = lodgepole pine; WL = western larch

Figure 4. Desired and Current Forest Composition by Dominance Group for the Warm/Dry Biophysical Setting

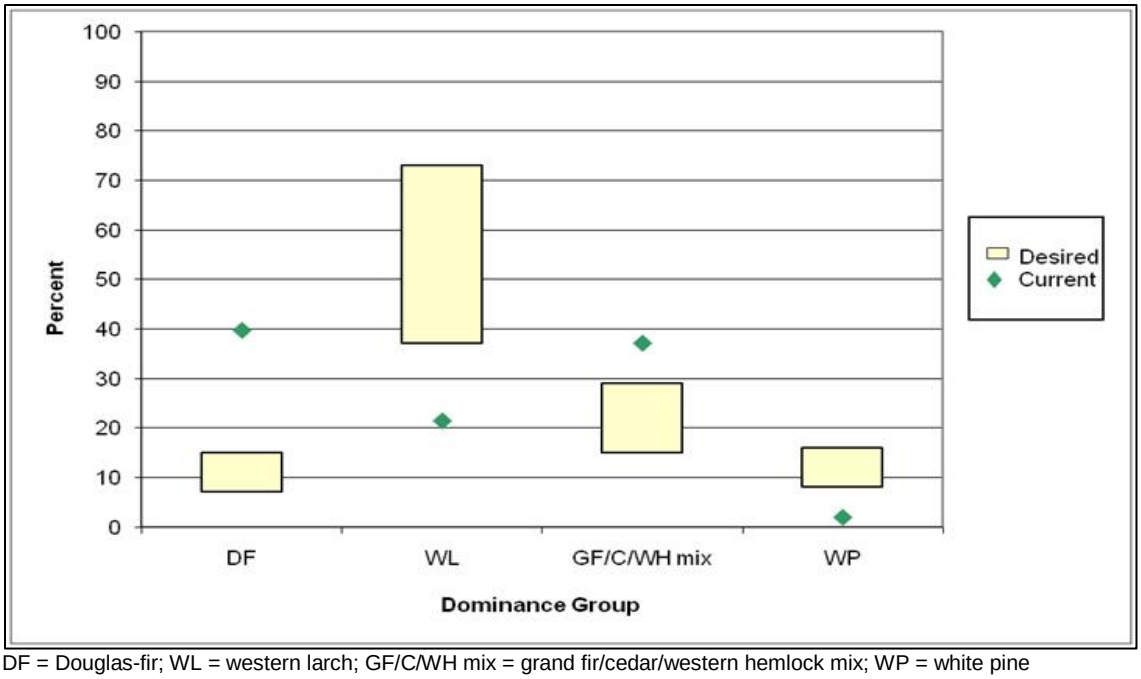


(Seed/sap = 0–5” DBH trees, small = 5–10” DBH trees, medium = 10–15” DBH trees, and large = greater than 15” DBH trees.)

Figure 5. Desired and Current Forest Structure by Size Classes for the Warm/Dry Biophysical Setting

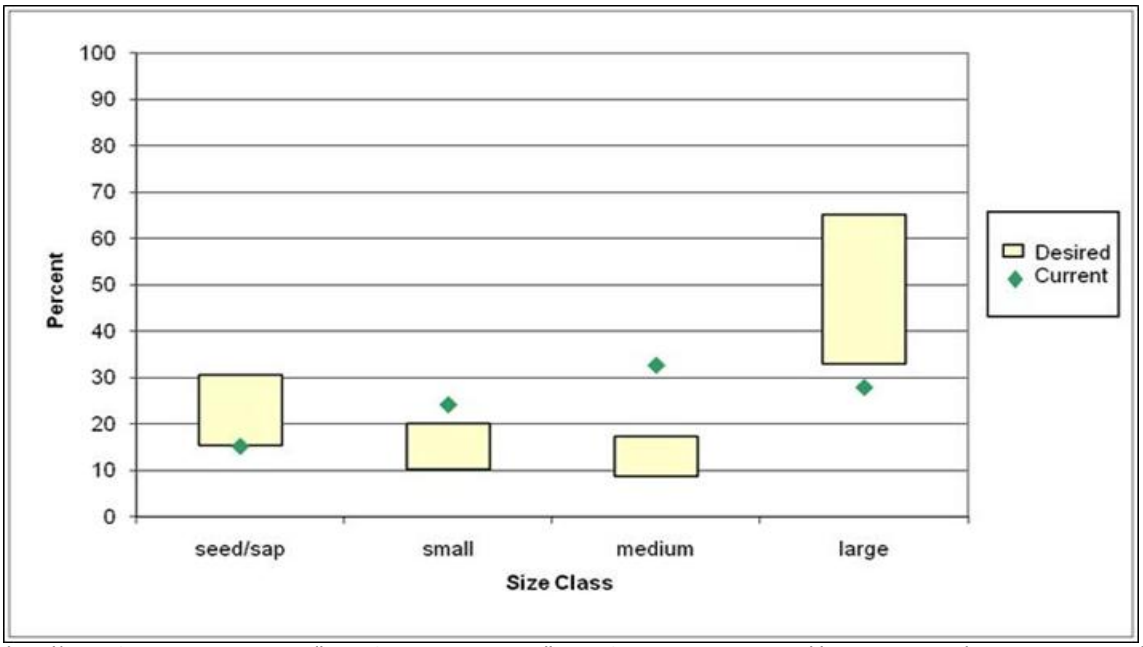
Warm/Moist – This biophysical setting includes moist forest sites that are relatively warm. This setting includes low-elevation upland sites with deeper soils on north and east aspects, extensive mid-elevation moist upland sites, and most low and mid-elevation wet stream bottoms, riparian benches, and toe-slopes.

The desired and current condition for dominance groups and size class are displayed in figure 6 and figure 7, respectively.



DF = Douglas-fir; WL = western larch; GF/C/WH mix = grand fir/cedar/western hemlock mix; WP = white pine

Figure 6. Desired and Current Forest Composition by Dominance Group for the Warm/Moist Biophysical Setting

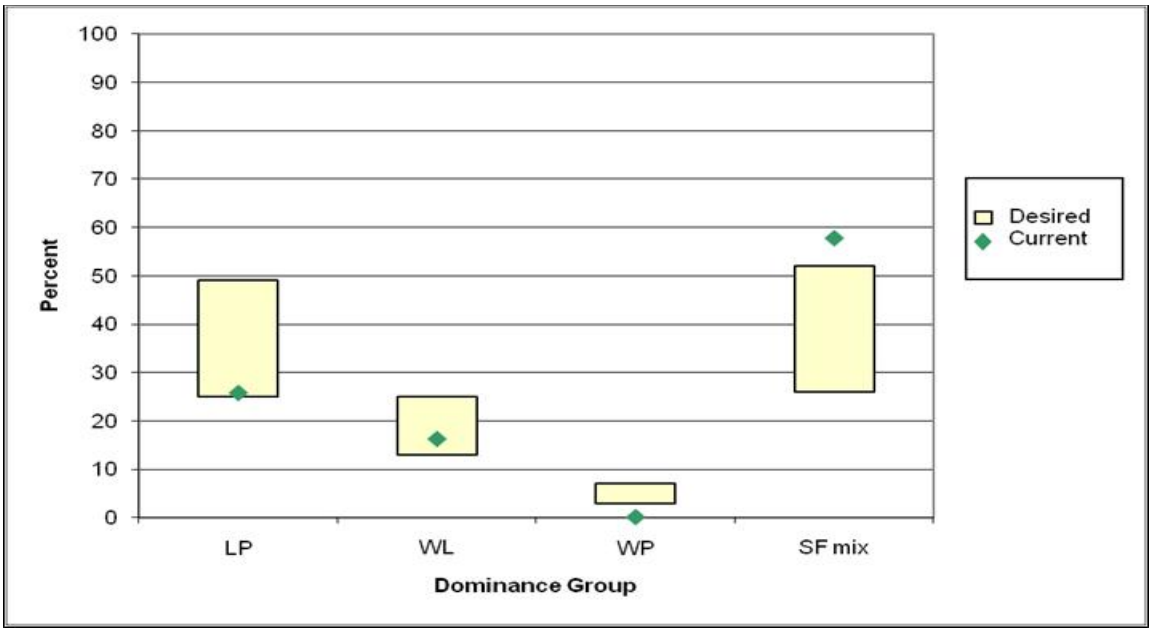


(seed/sap= 0–5” DBH trees, small=5–10” DBH trees, medium=10–15” DBH trees, and large= greater than15” DBH trees.)

Figure 7. Desired and Current Forest Structure by Size Classes for the Warm/Moist Biophysical Setting

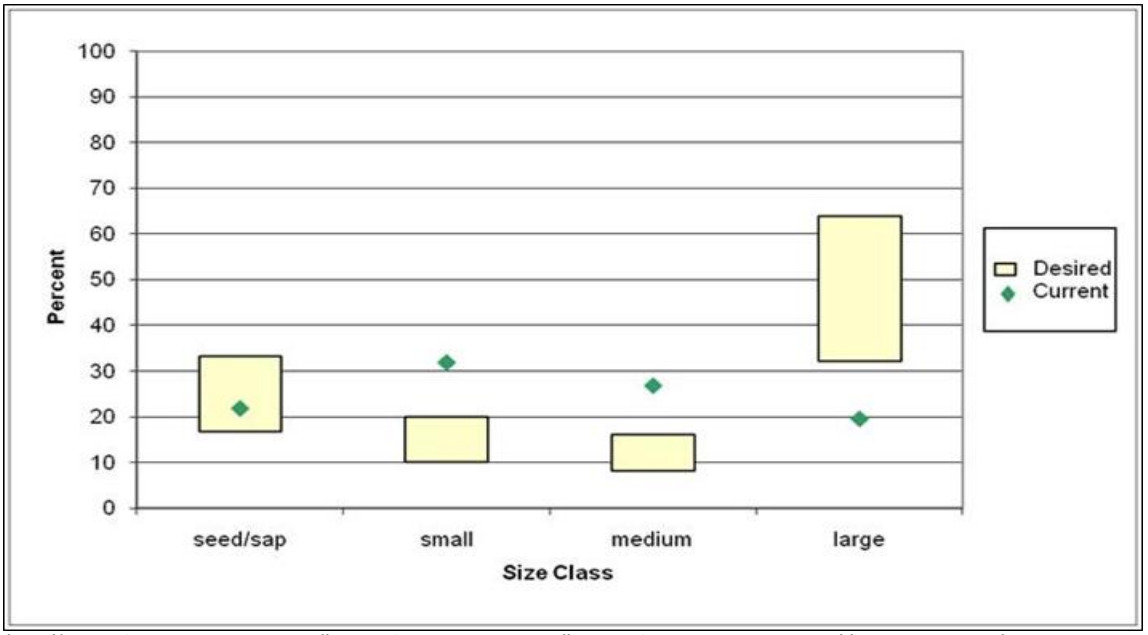
Subalpine –This biophysical setting occupies the higher elevations of the forest. This setting ranges from the cool and moist lower subalpine sites, up to the cold and dry high elevation sites that have more open forests.

The desired and current conditions for dominance type and size classes are displayed in figure 8 and figure 9, respectively.



LP = lodgepole pine; WL = western larch; WP = white pine; SFmix = subalpine fir mix

Figure 8. Desired and Current Forest Composition by Dominance Group for the Subalpine Biophysical Setting



(seed/sap = 0–5” DBH trees, small = 5–10” DBH trees, medium = 10–15” DBH trees, and large = greater than15” DBH trees.)

Figure 9. Desired and Current Forest Structure by Size Classes for the Subalpine Biophysical Setting

Pattern – Pattern is complex and highly variable because it is dependent on vegetation composition and structure, topography, (aspect, slope) and the disturbance forces that interact with these biotic and abiotic components. The pattern of successional stages across the landscape is diverse and resilient to fire, insects, diseases, climate change, and increasing human uses.

Ranges of desired conditions for stand structure, trees per acre and patch size are displayed by biophysical setting in table 2.

Table 2. Desired Stand Structure, Trees per Acre, and Patch Size for each Biophysical Setting

Biophysical Setting	Stand Structure	Trees per Acre at Maturity	Patch Size
Warm/Dry	Varies from multi-aged stands having one or two stories and low tree densities, to stands with moderate densities and having one, two or multiple stories	5–100	20 to 200 acre patches with small openings being common within the larger patches
Warm/Moist	Single- and two-storied stands dominate early- and mid-successional stages Multi-storied stands are common in late-successional stage	80–120	100 to 300 acre patches with larger ones on steep topography
Subalpine	Single- and two-storied stands dominate early- and mid-successional stages Multi-storied stands become more common in late-successional stages and in all stages at the highest elevations	30–120 with lower densities occurring at the highest elevations	50 to 2,500+ acres Larger patch sizes are common in the lodgepole pine type and are largely sustained by unplanned ignitions Smaller patches are desirable on the high elevation sites where whitebark pine occurs

FW-DC-VEG-12. Peatlands support natural unique plant and animal communities and provide habitat for rare plant and animal species. Peatland waterflows, water quality, water chemistry, soil, organic substrate, and plant communities function under conditions characteristic of how they evolved. Upland areas surrounding peatlands that have the most direct influence on peatland characteristics, and stream segments that flow directly into peatlands, are managed to sustain the natural characteristics and diversity of those peatlands.

Objectives

FW-OBJ-VEG-01. Forest Resilience—Over the life of the Plan, the outcome per decade is:

- Increased relative representation of early seral, shade-intolerant, drought- and fire-tolerant, insect/disease resistant species dominance types (e.g., ponderosa pine, white pine, western larch, whitebark pine, and hardwoods) on approximately 120,000 to 150,000 acres (these acres are also included in those listed in the following bullet).
- Treatment of approximately 250,000 acres to maintain and/or improve forest resilience, natural diversity, and productivity and to reduce negative impacts of non-native organisms. Treatments may include timber harvest, planting, thinning, management of fire (including planned and unplanned ignitions), mechanical fuel treatments, revegetation with native species, blister rust

pruning, integrated tree improvement activities, noxious weed treatments, and other integrated pest management activities including forest health protection suppression and prevention activities.

FW-OBJ-VEG-02. Non-native Invasive Plant Species–Over the life of the Plan, the outcome per decade is:

- All sites that are discovered with newly invading non-native invasive species are treated.
- The treatment of approximately 30,000 to 75,000 acres to reduce non-native invasive plant density, infestation size, and/or occurrence (these areas are also included in FW-OBJ-VEG-01).

Standards

FW-STD-VEG-01. Within old growth stands, timber harvest or other vegetation management activities shall not be authorized if the activities would likely modify the characteristics of the stand to the extent that the stand would no longer meet the definition of old growth (see glossary for old growth definition).

Guidelines

FW-GDL-VEG-01. Timber harvest or other vegetation management activities may be authorized in old growth stands if the activities are designed to increase the resistance and resiliency of the stand to disturbances or stressors, and if the activities are not likely to modify stand characteristics to the extent that the stand would no longer meet the definition of old growth (see the glossary for the definitions of resistance and resilience).

FW-GDL-VEG-02. Road construction (permanent or temporary) or other developments should generally be avoided in old growth stands unless access is needed to implement vegetation management activities for the purpose of increasing the resistance and resilience of the stands to disturbances.

FW-GDL-VEG-03. Vegetation management activities should retain the amounts of coarse woody debris (including logs) that are displayed in table 3. A variety of species, sizes, and decay stages should be retained. Exceptions may occur in areas where a site-specific analysis indicates that leaving the quantities listed in the table would create an unacceptable fire hazard to private property, people, or sensitive natural or historical resources. In addition, exceptions may occur where the minimum quantities listed in the table are not available for retention.

Table 3. Levels of Coarse Woody Debris to Retain after Vegetation Management Activities for each Biophysical Setting

Biophysical Setting	Total Coarse Woody Debris to Retain (tons/acre)	Number and Size of Logs to Retain	
		Number of Logs/Acre	Desired Size
Warm/Dry	Drier Sites: 5 – 12	6–14	Diameter: >10” with at least 2 pieces >20”
	Moister Sites: 10 – 20		Length: >12’
Warm/Moist	12 – 33	20–30	Diameter: >12” with at least 10 pieces >20” Length: >12’

Biophysical Setting	Total Coarse Woody Debris to Retain (tons/acre)	Number and Size of Logs to Retain	
		Number of Logs/Acre	Desired Size
Subalpine	Moister Sites: 12 – 25	Moister Sites: 20–30	Diameter: >10" (8" for lodgepole pine)
	Drier Sites: 7 – 15	Drier Sites: 15–20	Length: >12'

FW-GDL-VEG-04. Vegetation management activities should retain snags greater than 20 inches DBH and at least the minimum number of snags and live trees (for future snags) that are displayed in table 4. Where snag numbers do not exist to meet the recommended ranges, the difference would be made up with live replacement trees. Exceptions occur for issues such as human safety and instances where the minimum numbers are not present prior to the management activities.

Table 4. Snag and Snag Recruitment Levels to retain (where they exist) after Vegetation Management Activities (including Post-harvest Activities), by Harvest Type

Dominance Group	Biophysical Setting	Snags > 15"+ DBH	Live Trees > 15.0" DBH
Ranges per Acre where Treatments result in a Seed/Sap Size Class (Regeneration Harvest)			
All except lodgepole Pine	**Warm/Dry**	1.5 – 3.5	1.5 – 4.0
	Warm/ Moist	3.5 – 8.5	1.5 – 4.5
	Subalpine	4.0 – 5.5	1.5 – 2.5
Lodgepole pine	**All**	0.5 – 1.5	0.5 – 1.0
Ranges per Acre where Treatments result in a Small or Medium Size Class (e.g., Commercial Thin)			
All except lodgepole pine	**Warm/Dry**	0.5 – 2.5	9.5 – 16.5
	Warm/Moist	3.0 – 7.5	10.0 – 20.5
	Subalpine	3.0 – 4.5	10.0 – 13.0
Lodgepole pine	**All**	0.5 – 1.5	4.0 – 7.0
Ranges per Acre for Treatments in the Large Size Class (e.g., Restoration)			
All except lodgepole pine	**Warm/Dry**	2.0 – 5.0	22.0 – 30.5
	Warm/Moist	3.5 – 13.0	31.0 – 54.0
	Subalpine	5.5 – 8.5	29.5 – 36.5

FW-GDL-VEG-05. Where vegetation management activities occur and snags (or live trees for future snags) are retained, the following direction should be followed:

- Group snags where possible;

- Retain snags far enough away from roads or other areas open to public access to reduce the potential for removal (generally more than 150 feet);
- Emphasize retention of the largest snags and live trees as well as those species that tend to be the most persistent, such as ponderosa pine, larch, and cedar;
- Favor snags or live trees with existing cavities or evidence of use by woodpeckers or other wildlife; and

FW-GDL-VEG-06. During vegetation management activities (e.g., timber harvest), and in the event that retained snags (or live trees being retained for future snags) fall over or are felled (for safety concerns), they should be left on site to provide coarse woody debris.

FW-GDL-VEG-07. Evaluate proposed management activities and project areas for the presence of occupied or suitable habitat for any plant species listed under the Endangered Species Act or on the regional sensitive species list. If needed, based on pre-field review, conduct field surveys and provide mitigation or protection to maintain occurrences or habitats that are important for species sustainability.

FW-GDL-VEG-08. All silvicultural practices may be used to manage forest vegetation. This includes silvicultural systems (e.g., even-aged, two-aged or uneven-aged), regeneration methods (e.g., clearcutting, seed-tree, shelterwood, and group or single-tree selection), as well as other practices such as improvement cutting, commercial or pre-commercial thinning, use of planned or unplanned ignitions, planting, pruning, invasive terrestrial plant species control, cone collection, tree improvement, insect or disease control, site-preparation, and fuel reduction. Appropriate practices for a given situation depend on numerous factors, including the current and desired forest vegetation conditions at the stand and landscape scales, the biophysical setting, and the management direction and emphasis for the area. Silvicultural practices should generally trend the forest vegetation towards conditions that are more resistant and resilient to disturbances and stressors, including climate change.

FW-GDL-VEG-09. Peatlands/bogs should be buffered by at least 660 feet from management activities that may degrade this habitat.

Fire

Desired Condition

FW-DC-FIRE-01. Public and firefighter safety is always recognized as the first priority for all fire management activities.

FW-DC-FIRE-02. Hazardous fuels are reduced within the WUI and other areas where values are at risk. Fire behavior characteristics and fuel conditions exist in these areas that allow for safe and effective fire management. Fire behavior is characterized by low-intensity surface fires with limited crown fire potential. Forest conditions, and the pattern of conditions across the landscape, exist in these areas such that the risk is low for epidemic levels of bark beetles, high levels of root disease, and large scale, stand replacement wildfires.

FW-DC-FIRE-03. The use of wildland fire (both planned and natural, unplanned ignitions), increases in many areas across the Forest. Fire plays an increased role in helping to trend the vegetation towards the desired conditions while serving other important ecosystem functions. However, when necessary to protect life, property, and key resources many wildfires are still suppressed.

Objectives

FW-OBJ-FIRE-01. The outcome is the treatment of fuels on approximately 5,000 to 15,000 acres annually on NFS lands, primarily through planned ignitions, mechanical vegetation treatments (these acres are also included in FW-OBJ-VEG-01), and unplanned ignitions. NFS lands within the WUI are the highest priority for fuel treatment activities.

FW-OBJ-FIRE-02. Over the life of the Plan, manage natural, unplanned ignitions to meet resource objectives on at least 10 percent of the ignitions.

Watershed, Soils, Riparian, Aquatic Habitat, and Aquatic Species

This section provides forestwide direction for overall watershed health, water quality, soils, riparian areas, aquatic habitat, and aquatic species.

Watershed

Goals

GOAL-WTR-01. Maintain or improve watershed conditions in order to provide water quality, water quantity, and stream channel conditions that support ecological functions and beneficial uses.

Desired Conditions

FW-DC-WTR-01. Watersheds and associated aquatic ecosystems retain their inherent resilience to respond and adjust to disturbance without long-term, adverse changes to their physical or biological integrity.

FW-DC-WTR-02. Water quality meets applicable state water quality standards and fully supports beneficial uses. Flow conditions in watersheds, streams, lakes, springs, wetlands, and groundwater aquifers fully support beneficial uses, and meet the ecological needs of native and desirable non-native aquatic species and maintain the physical integrity of their habitats.

FW-DC-WTR-03. Stream flows provide for channel and floodplain dimensions that mimic reference conditions. Stream flows allow for water and sediment conveyance and overall channel maintenance. Sediment deposits from over-bank floods allow floodplain development and the propagation of flood-dependent riparian plant species. Surface and groundwater flows recharge riparian aquifers, provide late-season stream flows, cold water temperatures, and sustain the function of surface and subsurface aquatic ecosystems.

FW-DC-WTR-04. Municipal watersheds and public water systems (source water protection areas) meet water quality standards.

FW-DC-WTR-05. Water rights for consumptive and non-consumptive water uses obtained in the name of the Forest Service, support instream flows that provide for channel maintenance, water quality, aquatic habitats, and riparian vegetation. Water quality and beneficial uses are fully protected under special use permits related to water uses.

FW-DC-WTR-06. Cooperate with other landowners, agencies, and partners to monitor, maintain, and improve watershed and stream channel conditions.

FW-DC-WTR-07. Educational and informational programs are provided to enhance understanding of stream ecosystems and watersheds.

FW-DC-WTR-08. Watershed maintenance and improvement activities contribute to social and economic opportunities for local communities.

Objectives

FW-OBJ-WTR-01. Over the life of the Plan, trend at least 15 percent of subwatersheds toward an improved watershed condition. Improvements in these watersheds may include passive or active restoration efforts, depending on opportunities and/or funding.

FW-OBJ-WTR-02. Annually, implement 50 to 250 acres of watershed improvement activities with an emphasis on 303(d)-listed watersheds, or watersheds with approved Total Maximum Daily Loads (TMDLs).

Standards

FW-STD-WTR-01. Management activities shall maintain or improve water quality in public source water areas, and be consistent with applicable state source water protection requirements. Short-term effects[1] from activities in source water areas may be acceptable when those activities support long-term benefits[2] to aquatic resources.

Guidelines

FW-GDL-WTR-01. Management activities in impaired watersheds (listed by the state under section 5 of the Integrated 303(d)/305(b) Report) with approved TMDLs are designed to comply with the TMDL. Management activities in watersheds with streams on the 303(d) list are designed to maintain or improve conditions relative to the cause for impairment and will not cause a decline in water quality or further impair beneficial uses. A short-term or incidental departure from state water quality standards may occur where there is no long-term threat or impairment to the beneficial uses.

FW-GDL-WTR-02. In order to avoid future risks to watershed condition, ensure hydrologic stability when decommissioning or storing roads or trails.

FW-GDL-WTR-03. Project-specific best management practices (BMPs) will be incorporated in all land use and project plans as a principle mechanism for controlling non-point pollution sources, meet soil and water goals, and protect beneficial uses. To the extent practicable, ditch and road surface runoff should be disconnected from streams and other water bodies.

Soils

Goals

GOAL-SOIL-01. Maintain soil productivity and ecological processes where functioning properly, and restore where currently degraded. Maintain the physical, chemical, and biological properties of soils to support desired vegetation conditions and soil-hydrologic functions and processes within watersheds.

Desired Conditions

FW-DC-SOIL-01. Soil organic matter, physical conditions, and down woody debris maintain soil productivity and hydrologic function. Physical, biological, and chemical properties of soil are within the recommended levels by soil type as described in the KNF soil inventory. These soil properties enhance nutrient cycling; maintain the role of carbon storage, and support soil microbial and biochemical processes.

[1] Effects that occur during, or immediately following, implementation of activity

[2] Benefits that occur following completion of the activity

FW-DC-SOIL-02. Areas with sensitive and highly erodible soils or landtypes with mass failure potential are not destabilized as a result of management activities.

FW-DC-SOIL-03. Soil impacts are minimized and previously activity areas that have incurred detrimental soil disturbance recover through natural processes and/or restoration activities. Organic matter and woody debris, including large diameter logs, tops, limbs, and fine woody debris, remain on site after vegetation treatments in sufficient quantities to retain moisture, maintain soil quality, and enhance soil development and fertility by periodic release of nutrients as they decompose (refer to FW-GDL-VEG-03).

FW-DC-SOIL-04. Soil organic matter and down woody debris support healthy mycorrhizal populations, protect soil from erosion due to surface runoff, and retain soil moisture. Volcanic ash-influenced soils that occur on most of the Forest are not compacted and retain unique properties, such as low bulk density and high water holding capacity, to support desired vegetative growth

Objectives

FW-OBJ-SOIL-01. Over the life of the Plan, initiate restoration of 75 to 150 acres not meeting soil quality criteria.

Guidelines

FW-GDL-SOIL-01. Ground-based equipment should only operate on slopes less than 40 percent, in order to avoid detrimental soil disturbance. Where slopes within an activity area contain short pitches greater than 40 percent, but less than 150 feet in length, ground-based equipment may be allowed, as designated by the timber sale administrator.

FW-GDL-SOIL-02. Coarse woody debris is retained following vegetation management activities per (FW-GDL-VEG-03).

FW-GDL-SOIL-03. On nutrient- limited landtypes, harvesting organics should remain on site for at least 6 months or over a winter season to allow foliage nutrients to leach into the soil, except where site-specific analysis indicates the fuels would present an unacceptable hazard.

FW-GDL-SOIL-04. Ground-disturbing management activities on landslide prone areas should be avoided. If activities cannot be avoided, they should be designed to maintain soil and slope stability.

FW-GDL-SOIL-05. Project specific best management practices (BMPs) should be incorporated into all land management activities as a principle mechanism for protecting soil resources.

Riparian

Goals

GOAL-RIP-01. Maintain or improve riparian areas in order to support the ecological functions.

Desired Conditions

FW-DC-RIP-01. Riparian Habitat Conservation Areas (RHCAs) have healthy, functioning riparian systems and associated habitats that support well-distributed native and desired non-native plant, vertebrate, and invertebrate communities.

FW-DC-RIP-02. Riparian and aquatic ecosystems, including stream channel integrity, channel processes, and sediment regimes function characteristically for a given landscape and climatic setting.

FW-DC-RIP-03. Water quality provides stable and productive riparian and aquatic ecosystems. Streams and lakes are free of chemical contaminants and do not contain excess nutrients. Sediment

levels are within reference conditions, supporting salmonid spawning and rearing, and cold water biota requirements.

FW-DC-RIP-04. Composition, structure, and function of riparian vegetation are appropriate for a given landscape and climatic setting. Riparian vegetation adjacent to larger streams with lower gradients and wide valley bottoms is dominated by conifer stands in late-seral stages. These stands have multiple canopy layers with shrub, forb, and ferns underneath stands dominated by large trees. Native hardwoods such as black cottonwood, paper birch, and/or quaking aspen are found in areas along these larger streams. The narrower riparian zones along smaller, higher gradient streams have vegetation with a wide diversity of seral stages present, from relatively young stands of trees to fairly old stands, with a greater composition of early-seral, shade-intolerant trees species present than found in larger, lower gradient rivers. Natural disturbance regimes occur at intervals that maintain these conditions.

FW-DC-RIP-05. Vegetation in RHCAs is characteristic of reference aquatic and riparian ecosystems and provides: amounts and distribution of large woody debris; vertical structure and habitat for riparian-associated bird, mammal, amphibian, fish, and invertebrate species; summer and winter thermal regulation; ground cover and bank stability to maintain natural rates of surface erosion, bank erosion, and channel migration characteristic of those under which aquatic and riparian ecosystems developed; the capture and storage of sediment; and for recovery of RHCAs after watershed disturbances.

Objectives

FW-OBJ-RIP-01. Annually, maintain or improve 10 to 50 acres of riparian habitat.

Standards

FW-STD-RIP-01. When RHCAs are intact and functioning at desired condition, then management activities shall maintain or improve that condition. Short-term effects[3] from activities in the RHCAs may be acceptable when those activities support long-term benefits[4] to the RHCAs and aquatic resources.

FW-STD-RIP-02. When RHCAs are not intact and not functioning at desired condition, management activities shall include restoration components that compensate for project effects to promote a trend toward desired conditions. Large-scale restoration plans or projects that address other cumulative effects within the same watershed may be considered as compensatory components and shall be described during site-specific project analyses.

FW-STD-RIP-03. The INFISH direction in the Decision Notice (USDA Forest Service, 1995) and terms and conditions in the Biological Opinion (US Fish and Wildlife Service, 1998) shall be applied, with the following clarifications (see appendix B):

- INFISH Priority Watersheds have been added to and adapted into Conservation and Restoration Watersheds;
- The description of Standard Widths Defining Interim RHCAs is consistent for all Category 4 streams or water bodies: The area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest;

[3] Effects that occur during, or immediately following, implementation of activity

[4] Benefits that occur following completion of the activity

- Site-specific widths can be changed (increased where necessary to achieve management goals and objectives, or decreased where interim widths are not needed to attain RMOs or avoid adverse effects) and requires documentation of rationale supporting the change, but does not require watershed analysis or an amendment; and
- These INFISH "standards and guidelines" are defined as standards: TM-1, MM-3, MM-4, MM-5, and RA-4. All others are defined as guidelines.

Guidelines

FW-GDL-RIP-01. Soil and snow should not be side-cast into surface water during road maintenance operations.

FW-GDL-RIP-02. Grazing management should prevent livestock from trampling of native fish redds (i.e., nests).

FW-GDL-RIP-03. When conducting wildland fire operations, Minimum Impact Suppression Tactics should be used within RHCAs.

FW-GDL-RIP-04. When drafting water from streams, pumps should be screened and located away from spawning areas to prevent entrainment of fish and aquatic organisms. During the spawning season for native fish, pumping sites should be located away from spawning gravels. Drafting equipment should be cleaned and inspected for aquatic invasive species prior to use in a water body.

FW-GDL-RIP-05. If necessary for the attainment of RHCA desired conditions, ground-based logging equipment should only enter an RHCA at designated locations.

Aquatic Habitat

Goals

GOAL-AQH-01. Restore aquatic habitats where past management activities have affected stream channel morphology or wetland function.

Desired Conditions

FW-DC-AQH-01. Waterbodies, riparian vegetation, and adjacent uplands provide habitats that support self-sustaining native and desirable non-native aquatic communities, which include fish, amphibians, invertebrates, plants, and other aquatic-associated species. Aquatic habitats are diverse, with channel, lacustrine, and wetland characteristics and water quality reflective of the climate, geology, and natural vegetation of the area. Water quality supports native amphibians and diverse invertebrate communities. Streams, lakes, and rivers provide habitats that contribute toward recovery of threatened and endangered fish species and address the habitat needs of all native aquatic species.

FW-DC-AQH-02. Connectivity between waterbodies provides for life history functions (e.g., fish migration to spawning areas, amphibian migration between seasonal breeding, foraging, and overwintering habitats) and for processes such as recolonization of historic habitats. Stream channels supply the required structure for desired stream habitat features.

FW-DC-AQH-03. Conservation subwatersheds provide habitats that can support population strongholds of federally listed and sensitive species. Conditions in restoration subwatersheds improve to support population strongholds.

FW-DC-AQH-04. Rare and unique aquatic habitats, such as waterfalls and rock outcrops, are healthy and provide for associated native plant and animal communities.

FW-DC-AQH-05. Stream channels supply the required structure for desired stream habitat features such as pools, pool tails, banks, large woody material, backwaters, and riffles that provide aquatic species the necessary niches for holding, overwintering, spawning, cover, rearing, and feeding.

Objectives

FW-OBJ-AQH-01. Annually, enhance or restore 15 to 50 miles of habitat to maintain or restore structure, composition, and function of habitat for fisheries and other aquatic species.

FW-OBJ-AQH-02. Over the life of the Plan, the assemblage of macroinvertebrates present across the planning area as measured by the KNF River Invertebrate Prediction and Classification System (RIVPACS) analysis Observed/Effect (O/E) Model maintains a score of between 0.80 and 1.20 at all sites monitored on individual water bodies within the planning area.

FW-OBJ-AQH-03. Over the life of the Plan, reconnect 30 to 55 miles of fragmented habitat in streams where aquatic and riparian-associated species' migratory needs are limiting distribution of those species.

Aquatic Species

Goals

GOAL-AQS-01. Maintain or improve the distribution of native aquatic and riparian dependent species and contribute to the recovery of threatened and endangered aquatic species.

Desired Conditions

FW-DC-AQS-01. Over the long term, habitat contributes to the support of well-distributed self-sustaining populations of native and desired non-native aquatic species (fish, amphibians, invertebrates, plants, and other aquatic-associated species). In the short term, stronghold populations of native fish continue to thrive and expand into neighboring unoccupied habitats, and depressed populations increase in numbers. Available habitat supports genetic integrity and life history strategies of native fish, macroinvertebrates, and amphibian populations.

FW-DC-AQS-02. Non-native fish species are not expanding into waterbodies that support native fish on NFS lands. Impacts of non-native fish species on native salmonids, such as hybridization or displacement, are minimized to the extent possible. Aquatic ecosystems are free of invasive species such as zebra mussels, New Zealand mud snails, quagga mussels, bullfrogs, and Eurasian milfoil.

FW-DC-AQS-03. Cooperation and coordination with state agencies, federal agencies, tribes, and other groups leads to an upward trend of native species and desired non-native aquatic species.

FW-DC-AQS-04. Bull trout – Recovery and delisting of bull trout is the long-term desired condition. Bull trout population trends toward recovery through cooperation and coordination with USFWS, tribes, state agencies, other federal agencies, and interested groups. Recovery is supported through accomplishment of Bull Trout Recovery Plan tasks under Forest Service jurisdiction. On NFS lands spawning, rearing, and migratory habitat is widely available and inhabited. Bull trout have access to historic habitat and appropriate life history strategies (e.g., resident, fluvial, and adfluvial) are supported.

FW-DC-AQS-05. Bull trout. Habitat conditions improve in occupied bull trout streams and in connected streams that were historically occupied, resulting in an increase in the overall number of stronghold populations. Bull trout habitat and populations continue to be protected through the application of INFISH standards and guidelines.

FW-DC-AQS-06. **Kootenai River white sturgeon**. The recovery of Kootenai River white sturgeon is the long-term desired condition and coordination with stakeholders, such as tribes, state and other federal agencies, and adjacent landowners, is emphasized.

FW-DC-AQS-07. Macroinvertebrates. Macroinvertebrate communities have densities, species richness, and evenness comparable to communities found in reference conditions.

Objectives

FW-OBJ-AQS-01. Over the life of the Plan, improve 5 percent of subwatersheds that contain populations of sensitive or threatened and endangered species. Improvements in condition ratings may also be accounted for in the trend described in FW-OBJ-WTR-01.

Guidelines

FW-GDL-AQS-01. Management activities that may disturb native salmonids, or have the potential to directly deliver sediment to their habitats, should be limited to times outside of spawning and incubation seasons for those species, as identified in table 5.

Table 5. Spawning and Incubation Seasons for Spring and Fall Spawners

Species	Activity	Inoperable Activity Period*
Spring spawners	Known occupied streams	Prior to July 15
Fall spawners	Known occupied streams	September 1 through March 15

*Dates can be modified when site-specific information on staging and spawning of native fishes supports changes.

FW-GDL-AQS-02. When conducting management activities and fire suppression, all equipment used in water should be treated to prevent the introduction of aquatic invasive species and aquatic borne diseases.

Wildlife

Goals

GOAL-WL-01. The KNF manages wildlife habitat through a variety of methods (e.g., vegetation alteration, prescribed burning, invasive species treatments, etc.) to promote the diversity of species and communities and to contribute toward the recovery of threatened and endangered terrestrial wildlife species.

GOAL-WL-02. The KNF manages and schedules activities to avoid or minimize disturbance to sensitive species and manages habitat to promote their perpetuation into the future.

Desired Condition

FW-DC-WL-01. Nests and den sites and other birthing and rearing areas for terrestrial threatened, endangered, proposed, or sensitive species are relatively free of human disturbance during the period they are active at these sites. Individual animals that establish nests and den sites near areas of pre-existing human use are assumed to be accepting of that existing level of human use at the time the animals establish occupancy.

FW-DC-WL-02. A forestwide system of large remote areas is available to accommodate species requiring large home ranges and low disturbances, such as some wide-ranging carnivores (e.g., grizzly bear).

FW-DC-WL-03. Recovery of the terrestrial threatened and endangered species is the long-term desired condition. Foraging, denning, rearing, and security habitat is available for occupation. Populations trend toward recovery through cooperation and coordination with USFWS, state agencies, other federal agencies, tribes, and interested groups.

FW-DC-WL-04. All grizzly BMUs have low levels of disturbance to facilitate denning activities, spring use, limit displacement, and reduce human/bear conflicts and potential bear mortality. Spring, summer, and fall forage is available for the grizzly bear.

FW-DC-WL-05. Recovery of the grizzly bear is promoted by motorized access management within the KNF portion of the Northern Continental Divide Ecosystem (NCDE) and Cabinet-Yaak recovery zones.

FW-DC-WL-06. Large-diameter trees are available within potential bald eagle nesting habitat adjacent to large lakes and major rivers. Forested stands are managed to promote large diameter trees within eagle nesting territories, especially in the area between the nest site and the adjacent water body.

FW-DC-WL-07. Peregrine falcon nests have a low level of disturbance during periods of use. Forest landbirds and small mammals are abundant and support the current and expanding population of peregrine falcons on the Forest.

FW-DC-WL-08. Habitat for native ungulates is available and well-distributed across the landscape to provide prey for carnivores.

FW-DC-WL-09. Productive plant communities, with a mosaic of successional stages, structures, and species, are available for migratory landbirds. These habitats support nesting activities or use during bird migration across the Forest. The use of fire, both planned and unplanned ignitions, improves and maintains this mosaic of habitats.

FW-DC-WL-10. A mosaic of aquatic and riparian habitats, with a low level of disturbance, is available for associated species.

FW-DC-WL-11. Old growth, or other stands having many of the characteristics of old growth, exists for terrestrial species associated with these habitats (refers to FW-DC-VEG-03, FW-STD-VEG-01, FW-STD-VEG-02, FW-GDL-VEG-01, and FW-GDL-VEG-02).

FW-DC-WL-12. Trees and snags greater than 20-inch DBH are available throughout the Forest. Wildlife species associated with the warm dry biophysical setting find large-diameter ponderosa pine, Douglas-fir, and other species of snags for nesting (see also FW-DC-VEG-07, FW-GDL-VEG-04, and FW-GDL-VEG-05).

FW-DC-WL-13. Down wood, especially down logs, are available throughout the Forest for terrestrial mollusks, reptiles, amphibians, small mammals, and other species whose habitat requirements includes this component (refers to FW-GDL-VEG-03, FW-GDL-VEG-06, FW-DC-WTR-03, FW-DC-SOIL-01, FW-DC-SOIL-02, FW-DC-SOIL-03, FW-DC-RIP-05, FW-DC-AQH-05, FW-GDL-SOIL-02, FW-GDL-SOIL-03).

FW-DC-WL-14. A diversity of patch sizes of fire-killed trees (either natural or prescribed burned and where not a safety concern) exists to provide primary habitat for population expansions for species whose habitat requirements include this structural component (refers to FW-DC-VEG-05, FW-DC-TBR-01, FW-DC-FIRE-03).

FW-DC-WL-15. Caves, mines, and snags with loose bark provide areas for roosting, hibernation, or maternity sites for various species of bats (refer to FW-DC-VEG-07, FW-GDL-VEG-04, and FW-GDL-VEG-05).

FW-DC-WL-16. Habitat for native ungulates (elk, deer, moose, bighorn sheep, and mountain goat) is managed in coordination with state agencies. Cover and forage are managed according to FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-04, FW-DC-VEG-05, and FW-DC-VEG-11.

FW-DC-WL-17. Forest management contributes to wildlife movement within and between national forest parcels. Movement between those parcels separated by other ownerships is facilitated by management of the NFS portions of linkage areas identified through interagency coordination. Federal ownership is consolidated at these approach areas to highway and road crossings to facilitate wildlife movement.

FW-DC-WL-18. Secure denning and rendezvous sites are available for wolf packs and avoided by management activities during critical biological periods (e.g., whelping, rearing).

FW-DC-WL-19. By trending towards the desired conditions for vegetation, habitat is provided for native fauna adapted to open forests and early seral habitats, or whose life/natural history and ecology are partially provided by those habitats.

Objectives

FW-OBJ-WL-01. The outcome is the maintenance or restoration of wildlife habitat on 1,000 to 5,000 acres of NFS lands, annually, with an emphasis on restoration of habitats for threatened and endangered listed species and sensitive species.

FW-OBJ-WL-02. Elk. Over the life of the Plan, increase by 1 the number of planning subunits that provide at least 30 percent elk security (see glossary) and increase by 1 the number of high emphasis planning subunits (determined in cooperation with Montana Fish, Wildlife, and Parks; see FW-DC-WL-16) that provide at least 50 percent elk security.

FW-OBJ-WL-03. Landbird assemblage (insectivores). The outcome is the management of planned ignitions on 1,000 to 5,000 acres, annually, to provide habitat for olive-sided flycatchers, hairy woodpeckers, chipping sparrows, and Hammond's and dusky flycatchers. (Also see FW-OBJ-FIRE-02, which provides additional habitat for these species.)

Standards

FW-STD-WL-01. The Northern Rockies Lynx Management Direction (2007) and ROD is included in appendix B, and shall be applied.

FW-STD-WL-02. The Motorized Access Management within the Selkirk and Cabinet Yaak Grizzly Bear Recovery Zone Management Direction and ROD is included in appendix B, and shall be applied.

FW-STD-WL-03. Within the Kootenai portion of the NCDE recovery zone, BMU subunits shall maintain or improve the access and habitat parameters as shown in table 6. Site-specific motorized access densities and security core habitat are developed at the project level in consultation with the USFWS and through appropriate public involvement and NEPA procedures.

Table 6. NCDE Recovery Zone Bear Management Units (BMUs)

Bear MGMT Subunit	Open Motorized Route Density (OMRD)1	Total Motorized Route Density (TMRD)1	Security Core Area2
Krinklehorn BMU	≤18%	≤11%	≥75%
Therriault BMU	≤23%	≤10%	≥71%

[1] The standard for OMRD and TMRD is to be ≤ the percentage listed in the table above. This is calculated based on the percentage of the BMU with an OMRD ≥1 mi/mi2 and TMRD ≥2 mi/mi^2. OMRD and TMRD are defined in the glossary.

[2] The standard for Core is to be ≥ the percentage listed in the table. This is calculated based on the definition of "grizzly bear core habitat" in the glossary

FW-STD-WL-04. Permits and operating plans (e.g., special use, grazing, and mining) shall specify sanitation measures and adhere to the forestwide food/attractant storage order in order to reduce human/wildlife conflicts and mortality by making wildlife attractants (e.g., garbage, food, livestock carcasses) inaccessible through proper storage or disposal.

FW-STD-WL-05. No grooming of snowmobile routes in grizzly bear core habitat in the spring after April 1 of each year.

Guidelines

FW-GDL-WL-01. Grizzly Bear. Management activities should avoid or minimize disturbance in areas of predicted denning habitat during spring emergence (April 1 through May 1).

FW-GDL-WL-02. Bald Eagle. Management activities should avoid or minimize impacts to bald eagles on known occupied nest sites and roost sites, including known winter communal night roost areas, with timing and distance buffers based on the best available information.

FW-GDL-WL-03. Bald Eagle. Management activities should not result in the loss of existing nest trees or established roost sites.

FW-GDL-WL-04. Bald Eagle. Management activities should maintain or enhance nest site habitat suitability within existing nest territories (refer to FW-DC-VEG-03, FW-DC-VEG-07, FW-STD-VEG-01, FW-GDL-VEG-01, FW-GDL-VEG-02, FW-GDL-VEG-04, FW-GDL-VEG-05, and FW-DC-WL-13).

FW-GDL-WL-05. Wildfire Areas. Maintain unlogged conditions in some portions of areas burned by wildfires for 5 years post-fire. A well distributed diversity of patch sizes and burned conditions, based on fire characteristics and pre-fire forest conditions, should be left to provide habitat for species whose habitat requirements include recently burned forests (black-backed woodpecker, etc.).

FW-GDL-WL-06. Townsends Big-eared Bat. Bat gates or similar structures should be installed on abandoned mines with known bat use for human health and safety and bat protection. Bat use would be considered prior to any reclamation activity and would be maintained via the use of gates or similar structures where bat use occurs.

FW-GDL-WL-07. Townsends Big-eared Bat. Buildings should be inspected prior to removal or demolition to identify bat use. If bats are present, avoid disturbance until they have left for the season or been removed. (Refer to FW-DC-VEG-07, FW-GDL-VEG-04, FW-GDL-VEG-05, and FW-DC-WL-12).

FW-GDL-WL-08. Big Game. Management activities should avoid or minimize disturbance to native ungulates on winter range between December 1 and April 30, with the exception of routes identified

on MVUM as open to motor vehicle use. Management activities that occur on winter range during the winter period should concentrate activities to reduce impacts to native ungulates.

FW-GDL-WL-09. Big Game. Management activities should be avoided on native ungulate winter range areas during the critical mid-winter period (January and February) when snow depths most likely influence movement and availability of forage.

FW-GDL-WL-10. Elk. Management activities in planning subunits should maintain existing levels of elk security (see glossary). Where possible, management activities in high and medium emphasis planning subunits (determined in cooperation with Montana Fish, Wildlife, and Parks; see FW-DC-WL-16) should improve elk security.

FW-GDL-WL-11. **Big Game.** Management activities should avoid or minimize disturbance to native ungulates during the birthing/parturition period.

FW-GDL-WL-12. Connectivity. During the construction or reconstruction of highways that cross national forest lands, or high use forest roads, wildlife crossing features should be included in the design where necessary to contribute to connectivity of wildlife populations.

FW-GDL-WL-13. Connectivity. Management activities within one-quarter mile of existing crossing features, and future crossing features developed through interagency coordination, should not prevent wildlife from using the crossing features. The vegetative and structural components of connectivity, including snags and downed wood, should be managed according to the desired conditions for vegetation.

FW-GDL-WL-14. Connectivity. In wildlife linkage areas identified through interagency coordination, federal ownership should be maintained.

FW-GDL-WL-15. Grizzly bear. Elements contained in the most recent "Interagency Grizzly Bear Guidelines," or a conservation strategy once a grizzly bear population is delisted, would be applied to management activities.

FW-GDL-WL-16. Raptors. Management activities on NFS lands should avoid/minimize disturbance at known active raptor nests, including owls. Timing restrictions and distance buffers should be based on the best available information, as well as site-specific factors (e.g., topography, available habitat, etc.). Birds that establish nests near pre-existing human activities are assumed to be tolerant of that level of activity.

FW-GDL-WL-17. Townsend's Big-eared Bat. Avoid or minimize disturbance at known active roosts and hibernacula in caves, abandoned mines, or rock outcrops using the best available information.

FW-GDL-WL-18. Wolf. Management activities would avoid or minimize disturbance to wolves near den and rendezvous sites during the times those sites are in use based on the best available information.

FW-GDL-WL-19. Harlequin Duck. Management activities should avoid or minimize disturbance near known active nesting and rearing areas based on the best available information.

FW-GDL-WL-20. Common Loon. Management activities should avoid or minimize disturbance near known active nests based on the best available information.

FW-GDL-WL-21. Management activities on NFS lands should avoid/minimize disturbance at known active nesting or denning sites for other sensitive, threatened, or endangered species not covered under other forestwide guidelines. Use the best available information to set a timeframe and a distance buffer around active nests or dens. Individual animals that establish nests and den sites near areas of pre-existing human use, inconsistent with the timeframes and distances in the other forestwide wildlife guidelines or in the best available information, are assumed to be accepting of that

existing higher level of human use at the time the animals established occupancy. In those instances, as long as the individual animals continue to use the site, the higher intensity, duration, and extent of disturbance could continue but would not be increased beyond the level existing at the time the animals established occupancy.

Air Quality

Desired Condition

FW-DC-AQ-01. The Forest meets applicable federal, state, or tribal air quality standards. Prescribed burning is planned to meet those standards, including areas classified as Class 1 airsheds (i.e., Cabinet Mountains Wilderness) and nonattainment areas (i.e., presently Libby, Montana).

Guidelines

FW-GDL-AQ-01. The Forest should cooperate with federal, state, tribal, and local air quality agencies as appropriate in meeting applicable air quality requirements.

Human Uses and Designations of the Forest

Access and Recreation

Goals

GOAL-AR-01. Manage large areas on the Forest that accommodate opportunities for solitude, and self-reliance. Provide traditional recreational opportunities such as hunting, fishing, gathering products, and hiking. Water-based activities are provided at easily accessed destinations and accommodate concentrations of day use as well as overnight camping opportunities. Maintain a road and trail system that provides access to the Kootenai National Forest.

Desired Condition

FW-DC-AR-01. Quality, well-maintained recreation facilities exist at key locations to accommodate concentrations of use, enhance the visitor's experience, and protect the natural resources of the area. Day use access is available for relaxation, viewing scenery and wildlife, and for water and snow-based play. Recreation rental cabins and lookouts provide safe, comfortable, overnight facilities that allow visitors to experience and learn about the rich history of the area. Dispersed camping opportunities are available for a wide variety of users while considering resource concerns, activity conflicts, or over-use. Food and garbage storage do not contribute to conflicts between recreation users and wildlife.

FW-DC-AR-02. The scenic resources of the KNF compliment the recreation settings and experiences while reflecting healthy and sustainable ecosystem conditions.

FW-DC-AR-03. Opportunities for outdoor recreation, such as hunting, fishing, wildlife viewing, berry picking, firewood gathering, and bird watching are available for a wide variety of users. Interpretation and education opportunities enrich the visitors experience and promote a land ethic that preserves the cultural and natural resources of the Forest for future generations.

FW-DC-AR-04. Provide year-round outdoor recreation opportunities and experiences in a range of settings as described by the recreation opportunity spectrum (ROS). The desired distribution of forestwide ROS settings are displayed in table 7.

Table 7. Desired Distribution of Forestwide Recreation Opportunity Spectrum Settings (% of KNF)

	Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
Summer	186,215 acres (8%)	1,194,465 acres (54%)	358,976 acres (16%)	451,079 acres (21%)	26,542 acres (1%)
Winter	3,192 acres (<1%)	319,834 acres (14%)	1,719,286 acres (78%)	145,059 acres (7%)	30,178 acres (1%)

FW-DC-AR-05. A variety of motorized and non-motorized winter and summer recreation opportunities are available. Well-designed and maintained trailheads exist and offer adequate parking and turnaround areas. Trails are designed and maintained for the given users (saddle stock, snowmobiles, OHV users, hikers, mountain bikers, etc.).

FW-DC-AR-06. Solitude and non-motorized experiences are available in remote settings. Non-motorized areas are of sufficient size and configuration to minimize disturbance from other uses. Non-motorized use is also available in more developed areas, but provides less opportunity for solitude and challenge than in the more remote settings. A well-maintained non-motorized trail network accesses locations of interest for a variety of users.

FW-DC-AR-07. A transportation system is in place that provides safe and efficient public and administrative access to the Forest for recreation, special uses, forest resource management, and fire management activities. It is efficiently maintained, environmentally compatible, and responsive to public needs and desires. The transportation system and its use have minimal impacts on resources including threatened and endangered species, sensitive species, heritage and cultural sites, watersheds, and aquatic species. Newly constructed or reconstructed roads do not encroach into streams and riparian areas in ways that impact channel function, geometry, or sediment delivery. Roads in intermittent stored service pose minimal risks to water quality and aquatic ecosystems. Drainage structures have a minimal risk of failure, and provide adequate drainage that prevents accelerated runoff, erosion, and sediment delivery to streams. In addition, stream crossings provide for passage of aquatic organisms. Unauthorized roads and trails are no longer created.

FW-DC-AR-08. Motor vehicle use designations are complete, accurate signing is in place, and motorized vehicle use maps are available. User conflicts are reduced. Loop opportunities are a part of both the road and trail systems. Community involvement is promoted and user awareness programs (educational and informational) enhance the recreational experience. Partnerships are developed with various interest and user groups to participate in evaluation, planning, and maintenance programs for both roads and trails. Easements are obtained to help provide access to NFS lands.

FW-DC-AR-09. The transportation system is connected to state, county, local public, and other federal roads and trails. The transportation system provides reasonable access to facilities, private in-holdings, and infrastructure (e.g., buildings, recreation facilities, municipal water systems, dams, reservoirs, range improvements, electronic and communication sites, and utility lines).

FW-DC-AR-10. Access to the national forest is provided to Tribal members for effective exercise of Treaty reserved hunting, fishing, and gathering rights, as well as cultural and religious practices.

Objectives

FW-OBJ-AR-01. Dispersed Recreation Sites – Over the life of the Plan, the outcome is:

- Improve conditions by implementing three Interpretation and Education (I&E) programs (e.g., brochures, public contact, signing) focused on two heavily used areas (Vermilion River corridor and Lake Koocanusa Reservoir).

- Improve conditions at 50 to 75 dispersed sites. Improved conditions would mitigate critical recreation standards such as; visitor education, sanitation, define camping area impacting vegetation or stream banks, define parking area where site is expanding, or abate high-risk conditions such as bug killed trees.

FW-OBJ-AR-02. Developed Recreation Sites – The outcome is:

- Over the life of the Plan, 5 to 10 percent reduction of deferred maintenance at cabin and lookout rental sites and at water-based sites.

FW-OBJ-AR-03. National Forest System Road Maintenance – The outcome is:

- Annually, meet maintenance level requirements on 20 to 30 percent of Operational Maintenance Level 3, 4, and 5 roads (roads that are drivable by passenger vehicles and provide primary access to many recreation opportunities).
- Annually, meet maintenance level requirements on 10 to 20 percent of Operational Maintenance Level 2 roads (roads that are drivable by high clearance vehicles and provide additional access to recreation opportunities).
- Over the life of the Plan, decommission or place into intermittent stored service 150 to 350 miles of road.

FW-OBJ-AR-04. Winter trails – Annually, groomed trails are available on:

- 250 to 290 miles of motorized trails.
- 25 to 45 miles of non-motorized trails.

FW-OBJ-AR-05. Summer trails – Annually, maintenance is performed on:

- 10 to 20 miles of motorized trails
- 250 to 750 miles of non-motorized trails.

Guidelines

FW-GDL-AR-01. Management activities should be consistent with the mapped scenic integrity objective, see Plan set of documents. The scenic integrity objective is High to Very High for scenic travel routes, including Pacific Northwest National Scenic Trail, designated Scenic Byways, and National Recreation Trails.

Inventoried Roadless Areas

Goals

GOAL-IRA-01. Inventoried roadless areas will be managed to protect values and benefits of roadless areas.

Standards

FW-STD-IRA-01. Within inventoried roadless areas, outside of the state of Idaho, the 2001 Roadless Area Conservation Rule (36 CFR 294 Subpart B, published at 66 Fed Reg. 3244-3273) shall apply. IRAs are identified in a set of inventoried roadless area maps, contained in the Forest Service Roadless Area Conservation, Volume 2, dated November 2000, which are held at the national headquarters office of the Forest Service, or any subsequent update or revisions of those maps (36 CFR 294.11). Maps of the IRAs are also found in appendix C of the Forest Plan FEIS.

FW-STD-IRA-02. Within inventoried roadless areas in the state of Idaho, Idaho Roadless Rule (36 CFR 294 Subpart C) shall apply. Idaho Roadless Areas are identified in a set of maps maintained at the national headquarters office of the Forest Service.

FW-STD-IRA-03. Within inventoried roadless areas in the state of Idaho, provisions in the Idaho Roadless Rule (36 CFR 294 Subpart C) shall take precedence over any inconsistent land management plan component unless and until the rule is amended. Land management plan components that are not inconsistent with the Rule will continue to provide guidance for projects and activities within Idaho Roadless Areas; as shall those related to protection of threatened and endangered species (36 CFR 294.28(d)).

Guidelines

FW-GDL-IRA-01. Wilderness potential will be maintained on 16 percent of the inventoried roadless areas on the Forest.

Lands and Special Uses

Desired Condition

FW-DC-LND-01. Land ownership is adjusted (acquired or conveyed) to provide reasonable access or improve efficiency of NFS land management, taking resource values into consideration. Boundaries are surveyed and clearly posted and occupancy trespass is reduced. Rights-of-way and strategic easements are acquired to provide reasonable public and administrative access. Clear titles to NFS lands are retained. Special use authorizations meet forest management and public needs.

Guidelines

FW-GDL-LND-01. New electrical distribution (33 kilovolts (kv) or less) and telephone lines should be buried unless one or more of the following applies:

- Burial is not feasible due to geologic hazard or unfavorable geologic conditions; or
- Greater long-term site disturbance would result.

FW-GDL-LND-02. Proposals for utility and communication facilities outside designated communication sites or utility corridors should only be considered after improvement of existing facilities to accommodate expanded use is analyzed and determined to be infeasible (refer to appendix D for listings and display of designated communication sites and utility corridors).

Cultural Resources

Goals

GOAL-CR-01. Provide education about the importance of protecting cultural resources and the consequences for unlawful damage to or taking of cultural resources to reduce looting, vandalism, and incidental damage.

Desired Condition

FW-DC-CR-01. Cultural resources are inventoried, evaluated for inclusion on the National Register of Historic Places, and managed according to their allocation category, including preservation, enhancement-public use, or scientific investigation. National Register ineligible cultural resources may be released from active management. Until evaluated, cultural resources are treated as National Register eligible. Historically and archaeologically important cultural resources and traditional cultural properties are nominated to the National Register.

FW-DC-CR-02. Cultural resources are safeguarded from vandalism, looting, and environmental damage through monitoring, condition assessment, protection, and law enforcement measures. Interpretation and adaptive use of cultural resources provide public benefits and enhance understanding and appreciation of KNF prehistory and history. Cultural resource studies provide relevant knowledge and perspectives to KNF land management. Artifacts and records are stored in appropriate curation facilities and are available for academic research, interpretation, and public education.

Objectives

FW-OBJ-CR-01. Annually complete an inventory of 50 to 100 acres containing, or predicted to contain, highly valuable, threatened, or vulnerable cultural resources (non-project acres).

FW-OBJ-CR-02. Over the life of the Plan, evaluate and nominate 5 to 10 significant cultural resources to the National Register of Historic Places.

FW-OBJ-CR-03. Over the life of the Plan, develop five historic contexts, overviews, thematic studies, or cultural resources property preservation plans to help guide management and use of National Register eligible or listed properties, districts, traditional cultural properties, and cultural landscapes.

FW-OBJ-CR-04. Annually complete one public outreach or interpretive project that enhances public understanding and awareness of cultural resources and/or history of the Plan area.

Guidelines

FW-GDL-CR-01. Cultural resource protection provisions should be included in applicable contracts, agreements, and special use permits for National Register-listed or eligible properties.

FW-GDL-CR-02. Historic human remains should be left undisturbed unless there is an urgent reason (e.g., human health and safety, natural event, etc.) for their disturbance.

American Indian Rights and Interests

Goals

GOAL-AI-01. Respect Indian tribal self-government and sovereignty, honor tribal Treaty and other rights through protection or enhancement of such, and meet the responsibilities that arise from the unique legal relationship between the Federal Government and Indian tribal governments. Manage the Forest to address and be sensitive to traditional American Indian religious beliefs and practices.

Desired Condition

FW-DC-AI-01. The KNF recognizes and maintains culturally significant species and the habitat necessary to support healthy, sustainable, and harvestable plant and animal populations to ensure that rights reserved by Tribes in the Hellgate Treaty of 1855 are protected or enhanced.

FW-DC-AI-02. The KNF recognizes, ensures, and accommodates Tribal member access to the Forest for the exercise of treaty rights and cultural uses consistent with laws, policies, and regulations.

FW-DC-AI-03. The KNF recognizes and protects traditional cultural areas as associated with the traditional beliefs of a Tribe about its cultural history.

Objectives

FW-OBJ-AI-01. Over the life of the Plan, the outcome is continued access and acquisition of forest products for each federal recognized Tribe with historical or treaty interests in KNF lands for traditional cultural uses by tribal members, through a cooperatively established agreement.

FW-OBJ-AI-02. Over the life of the Plan, the outcome is management of traditional cultural areas, through the development of 6 to 25 management plans, in consultation with the tribes.

FW-OBJ-AI-03. Over the life of the Plan, the outcome is ongoing government-to-government and staff consultation for each federally recognized Tribe with historical or treaty interests in KNF lands, through a cooperatively established tribal consultation protocol.

Guidelines

FW-GDL-AI-01. Consult with Tribes when management activities may impact treaty rights and/or cultural sites and cultural use, according to the consultation protocol.

Production of Natural Resources

Timber

Goals

GOAL-TBR-01. Provide a sustainable level of timber products for current and future generations. Production of timber from NFS lands contributes to an economically viable forest products industry.

Desired Condition

FW-DC-TBR-01. Production of timber contributes to ecological, social, and/or economic sustainability, and associated desired conditions. A sustainable mix of timber products (including both sawtimber and non-sawtimber) is offered under a variety of harvest and contract methods in response to market demand. Salvage of dead and dying trees captures as much of the economic value of the wood as possible while retaining the amount needed for wildlife habitat, soil productivity, and ecosystem functions.

FW-DC-TBR-02. Lands identified as suitable for timber production[5] have a regularly scheduled timber harvest program. Where appropriate, thinning or other types of stand treatments are used to increase tree growth and create additional growing space for the desirable tree species, to address forest resilience objectives, and reduce mortality and fuel loading. Lands are adequately restocked within 5 years of final regeneration harvest, following a site-specific silvicultural prescription.

FW-DC-TBR-03. Timber cutting on other than suitable for timber production lands occurs for such purposes as salvage, fuels management, insect and disease mitigation, protection or enhancement of biodiversity or wildlife habitat, or to perform research or administrative studies, or recreational and scenic-resource management consistent with other management direction. Restocking of these lands varies, based on the purpose and need for the project, and is determined through the project-level interdisciplinary process and the silvicultural prescription. Based on the site-specific silvicultural prescription and desired conditions, lands may be restocked within 5 years. In some instances, such as when lands are harvested to create openings for fuel breaks and vistas or to prevent encroaching trees, these lands may not be restocked.

[5] Timber suitability was determined as part of the planning process, as described in appendix B of the EIS. A timber suitability data layer is retained in the KNF GIS library.

FW-DC-TBR-04. The Allowable Sale Quantity (ASQ) is 802 MMBF over the first decade the Plan is implemented. Timber harvest will not exceed this amount over the first decade of implementation. The long term sustained yield capacity (LTSYC) for the Forest is approximately 17 MMCF (approximately 90 MMBF).

Objectives

FW-OBJ-TBR-01. Annually offer timber for sale at the estimated predicted volume sold of 47.5 MMBF.

Standards

FW-STD-TBR-01. Regulated timber harvest activities shall occur only on those lands classified as suitable for timber production.

FW-STD-TBR-02. If individual harvest openings created by even-aged silvicultural practices are proposed that would exceed 40 acres, then NFMA requirements regarding public notification and approval shall be followed. These requirements do not apply to the size of areas harvested because of catastrophes such as, but not limited to, wildfire, insect and disease attacks, or wind storms.

FW-STD-TBR-03. Timber harvest activities shall only be used when there is reasonable assurance of restocking within 5 years after final regeneration harvest. Restocking level is prescribed in a site-specific silviculture prescription for a project treatment unit and is determined to be adequate depending on the objectives and desired conditions for the Plan area. In some instances, such as when lands are harvested to create openings for fuel breaks, wildlife habitat, and vistas or to prevent encroaching trees, it is adequate not to restock.

FW-STD-TBR-04. Even-aged stands shall generally have reached or surpassed culmination of mean annual increment (95 percent of CMAI, as measured by cubic volume) prior to regeneration harvest, unless the following conditions have been identified during project development:

- When such harvesting would assist in reducing fire hazard within the WUI; and
- When harvesting of stands will trend landscapes toward vegetation desired conditions.

FW-STD-TBR-05. Harvesting systems shall be selected based on their ability to meet desired conditions and not strictly on their ability to provide the greatest dollar return.

FW-STD-TBR-06. Clearcutting shall be used only where it is the optimum method for meeting Forest Plan direction.

FW-STD-TBR-07. Even-aged prescriptions other than clearcutting (seed tree, shelterwood, etc.) shall be used when appropriate to meet Forest Plan direction.

Guidelines

FW-GDL-TBR-01. Timber harvest on other than suitable lands may occur for such purposes as salvage, fuels management, insect and disease mitigation, protection or enhancement of biodiversity or wildlife habitat, or to perform research or administrative studies, or recreation and scenic-resource management consistent with other management direction.

Minerals

Desired Condition

FW-DC-MIN-01. The Forest continues to contribute to the economic strength and demands of the nation by supplying mineral and energy resources while assuring that the sustainability and resiliency of other resources are not compromised or degraded. Mineral materials are made available based

upon public interest, material availability, in-service needs, and protection of other resource values, including consistency with desired conditions for other resources. Geologic features are conserved for their intrinsic values and characteristics. Reclamation of abandoned mine sites occurs where human health and environmental degradation risks should occur, with reclamation priority given to mine sites with human health risks.

Objectives

FW-OBJ-MIN-01. Annually, the outcome is the reclamation of one abandoned mine site.

Standards

FW-STD-MIN-01. Locatable mineral development is not allowed in areas withdrawn from mineral entry. (Refer to appendix D for areas withdrawn from mineral entry.)

Grazing

Desired Condition

FW-DC-GRZ-01. Grazing occurs at sustainable levels in suitable locations while protecting resources.

FW-DC-GRZ-02. Transitory range in existing allotments is used if compatible with allotment management plans.

FW-DC-GRZ-03. Vacant allotments are evaluated and may be closed when there is either a lack of use, a shortage of forage for a viable allotment, or the likelihood of a significant resource conflict.

Objectives

FW-OBJ-GRZ-01. Annually, the outcome is the permitting of 4,000 to 5,000 head months (5,100 to 6,300 animal unit months).

Special Forest and Botanical Products

Desired Condition

FW-DC-SFP-01. Special forest and botanical products are harvested in a sustainable manner while protecting resources, providing products for current and future generations. Vegetation management activities augment the firewood program providing opportunities for collecting firewood.

Economic and Social Environment

Social and Economic Systems

Goal

GOAL-SES-01. Contribute to the social and economic well-being of local communities by promoting sustainable use of renewable natural resources. Provide timber for commercial harvest, forage for livestock grazing, opportunities for gathering firewood and other special forest products, and settings for recreation consistent with goals for watershed health, sustainable ecosystems, biodiversity, and scenic/recreation opportunities.

Desired Condition

FW-DC-SES-01. Outputs and values generated by the Forest contribute to sustaining social and economic systems.

FW-DC-SES-02. The outputs and values provided by the Forest contribute to the local economy through the generation of jobs and income while creating products for use, both nationally and locally. Jobs and income generated by the activities and outputs from national forest management remain stable, contributing to the functional economy surrounding the KNF.

FW-DC-SES-03. The outputs and values provided by the Forest contribute to community stability or growth and the quality of lifestyles in the Plan area.

FW-DC-SES-04. To the extent possible, the Forest contributes to the protection of communities and individuals from wildfire within the limits of firefighter safety and budgets.

Objectives

FW-OBJ-SES-01. Provide activities and outputs as described in the forestwide objectives.

Cooperation and Community Involvement

Desired Condition

FW-DC-CCI-01. Cooperative programs, such as agreements, activities, grants, volunteers, and partnerships, are occurring with federal, state, and county agencies; other nongovernmental organizations; and individuals to help achieve Forest goals and improve overall resource management. Information, interpretation, and education programs are provided that communicate forest resource conditions and opportunities.

FW-DC-CCI-02. Coordinate with U.S. Border Patrol on issues relating to national security along the northern international border of the United States and Canada.

Chapter 3—Management Area Direction

Introduction

Management Area (MA) allocations are specific to areas across the Forest that have similar management needs and desired conditions. Each MA has a certain emphasis which will direct management activities on that piece of land.

This chapter includes the following for each MA:

- A brief description of the management area, including acres by specific areas; and
- Management direction in the form of desired conditions, standards, and guidelines.

The management direction results in a "prescription" for the MA.

Management areas are grouped into seven major categories (table 8). Within each category are different MA descriptions, desired conditions, standards, and guidelines.

Table 8. KNF Management Areas and Acreages

Management Area	Management Area Name	Acres	Percent
1a	Wilderness	93,700	4.2%
1b	Recommended Wilderness	86,800	3.9%
1c	Wilderness Study Area	34,100	1.5%
2	Eligible Wild and Scenic Rivers	41,000	1.8%
3	Botanical, Geological, Historical, Recreational, Scenic or Zoological Areas	29,100	1.3%
4	Established and Recommended Research Natural Areas	9,800	0.4%
5a	Backcountry – Non-motorized Year-round	246,800	11.1%
5b	Backcountry – Motorized Year-round (Summer only on designated routes/areas)	169,800	7.7%
5c	Backcountry – Motorized Winter, Non-motorized Summer	86,500	3.9%
6	General Forest	1,408,600	63.5%
7	Primary Recreation Areas	12,900	0.6%
	Total NFS Lands	**2,219,100**	

Some MAs overlap (e.g., MA1b – Recommended Wilderness may have an overlapping MA4 – Research Natural Area).

The acres in table 8 are based on a single management area designation and where MAs overlap, the following hierarchy was used for map display and calculating non-overlapping acres:

1. Wilderness (MA1a)
2. Research Natural Areas (MA4)
3. Wilderness Study Area (MA1c)

4. Recommended Wilderness (MA1b)
5. Eligible Wild and Scenic Rivers (MA2)
6. Botanical, Geological, Historical, Recreational, Scenic or Zoological Areas (MA3)
7. Primary Recreation Areas (MA7)

Because of overlapping management areas, the acre figures reported in table 8 may not match those listed in the tables within each MA section. The acre figures in those tables are total acres for that area within all MAs.

MA1a—Wilderness

Description

The KNF manages one congressionally designated wilderness area, the Cabinet Mountains Wilderness, which totals 93,700 acres and is part of the National Wilderness Preservation System. This area is managed to protect wilderness character as defined in the Wilderness Act and outlined in the Cabinet Mountains Wilderness Management Plan. Wilderness generally appears to have been affected primarily by the forces of nature, with the imprint of human work substantially unnoticeable.

Desired Condition

Vegetation

MA1a-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Fire

MA1a-DC-FIRE-01. Fire plays an increased role as a natural disturbance agent.

Watersheds and Water Quality

MA1a-DC-WTR-01. Water bodies and riparian areas provide quality habitat for fish, amphibians, and other aquatic-associated species.

Wildlife

MA1a-DC-WL-01. Large remote areas with little human disturbance, such as those found in this MA (in conjunction with MAs 1b, 1c, and 5a, 5b, 5c), are retained and contribute habitats for species with large home ranges such as wide-ranging carnivores (e.g., grizzly bear) and species found primarily in these habitats, such as mountain goat. Habitat conditions within these management areas contribute to wildlife movement within and across the Forest.

Air Quality

MA1a-DC-AQ-01. Air quality is good and the air quality resource values (scenery, aquatic ecosystems, vegetation, and wildlife) are protected.

Access and Recreation

MA1a-DC-AR-01. Designated wilderness areas provide non-motorized and non-mechanized opportunities for exploration, solitude, risk, challenge, and primitive recreation.

MA1a-DC-AR-02. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of primitive.

MA1a-DC-AR-03. Opportunities for solitude are moderate to high on the existing trail system with few human encounters expected. Opportunities for solitude are high when traveling cross-country with almost no human encounters expected.

MA1a-DC-AR-04. Campsites may be visible at popular destinations and at major trail junctions. These sites accommodate moderate use and have minimal impacts to wilderness characteristics.

MA1a-DC-AR-05. Directional and regulatory signs are primarily found at trailheads outside of this MA but some signs may be present within these areas.

MA1a-DC-AR-06. Preservation of historic properties may occur, although buildings and other structures are rare.

Standards

Access and Recreation

MA1a-STD-AR-01. Motor vehicle use is not allowed.

MA1a-STD-AR-02. Mechanized use is not allowed (e.g., mountain bikes and other wheeled equipment).

MA1a-STD-AR-03. Motorized equipment is not allowed (e.g., chain saws).

MA1a-STD-AR-04. Road construction and/or reconstruction are not allowed.

MA1a-STD-AR-05. Party size shall not exceed eight people and eight head of stock (maximum of 1.5 head per person).

Timber

MA1a-STD-TBR-01. Timber harvest is not allowed.

Minerals

MA1a-STD-MIN-01. Mineral leasing is legally unavailable.

MA1a-STD-MIN-02. The removal of mineral materials is not allowed.

Grazing

MA1a-STD-GRZ-01. Grazing is not allowed.

Special Forest Products and Firewood

MA1a-STD-SFP-01. Use for commercial purposes is not allowed.

Guidelines

Vegetation

MA1a-GDL-VEG-01. Non-native invasive plant species may be treated where significant values inside or outside wilderness are clearly at risk, including recovery of threatened, endangered, and sensitive species.

Fire

MA1a-GDL-FIRE-01. Natural, unplanned ignitions may be managed to meet resource objectives.

MA1a-GDL-FIRE-02. Planned ignitions may be used when necessary to contribute to the recovery of a threatened and endangered species or to allow fire to play its natural role in wilderness.

Access and Recreation

MA1a-GDL-AR-01. Management activities should be consistent with the Scenic Integrity Objective of Very High.

Timber

MA1a-GDL -TBR-01. Cutting of trees is allowed for such things as trail maintenance or hazard tree mitigation.

Special Forest Products and Firewood

MA1a-GDL-SFP-01. Use for personal purposes is allowed, but without the aid of motorized equipment (e.g., chainsaws).

MA1b—Recommended Wilderness

Description

These areas (table 9) are recommended as additions to the National Wilderness Preservation System. This MA represents approximately 16 percent of the Inventoried Roadless Areas. For each recommended wilderness, the wilderness character and potential for the area to be included in the National Wilderness Preservation System remain intact until Congressional action is taken.

Table 9. Recommended Additions to the National Wilderness Preservation System

Recommended Wilderness	Recommended Acres
Cabinet Mountains (additions)	29,900
Roderick	23,500
Scotchman Peaks	35,900
Ten Lakes[2]	26,000
Total Acres[1]	**115,300**

[1] Total acres are more than those shown in table 8 because of overlapping management areas. As noted with table 8, RNAs (MA4) are higher in the hierarchy than recommended wilderness (MA1b), resulting in acres of RNA being totaled prior to recommended wilderness. RNA acres overlapping with recommended wilderness total 2,500 acres.
[2] The Ten Lakes recommended wilderness acres are as described in the 1985 Legislative Report to Congress. They overlap MA1c (WSA). MA1c management area direction takes precedent.

Desired Condition

Vegetation

MA1b-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Fire

MA1b-DC-FIRE-01. Fire plays an increased role as a natural disturbance agent.

Watersheds and Water Quality

MA1b-DC-WTR-01. Water bodies and riparian areas provide quality habitat for fish, amphibians, and other aquatic-associated species.

Wildlife

MA1b-DC-WL-01. Large remote areas with little human disturbance such as those found in this MA (in conjunction with MAs 1a, 1c, and 5a, 5b, 5c) are retained and contribute habitats for species with large home ranges such as wide-ranging carnivores (e.g., grizzly bear) and species found primarily in these habitats such as mountain goat. Habitat conditions within these management areas contribute to wildlife movement within and across the Forest.

Access and Recreation

MA1b-DC-AR-01. These areas provide non-motorized and non-mechanized opportunities for exploration, solitude, risk, challenge, and primitive recreation. Opportunities for solitude are moderate to high on existing trails with few human encounters expected.

MA1b-DC-AR-02. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of semi-primitive non-motorized.

MA1b-DC-AR-03. Opportunities for solitude are high when traveling cross-country with almost no human encounters expected.

MA1b-DC-AR-04. Campsites may be visible at popular destinations and at major trail junctions. These sites accommodate moderate use.

MA1b-DC-AR-05. Directional and regulatory signs are primarily found at trailheads outside of this MA but some signs may be present within these areas.

MA1b-DC-AR-06. Preservation of historic properties may occur, although buildings and other structures are rare.

Standards

Access and Recreation

MA1b-STD-AR-01. Motor vehicle use is not allowed.

MA1b-STD-AR-02. Mechanized use is not allowed (e.g., mountain bikes and other wheeled equipment).

MA1b-STD-AR-03. Road construction is not allowed.

MA1b-STD-AR-04. Reconstruction of roads is not allowed.

Timber

MA1b-STD-TBR-01. Timber harvest is not allowed.

Minerals

MA1b-STD-MIN-01. The removal of mineral materials is not allowed.

Grazing

MA1b-STD-GRZ-01. Grazing is not allowed.

Special Forest Products and Firewood

MA1b-STD-SFP-01. Use for commercial purposes is not allowed.

Guidelines

Vegetation

MA1b-GDL-VEG-01. Non-native invasive plant species may be treated and other vegetation restoration projects may occur if the need is linked to human-induced changes and is necessary for the recovery of threatened and endangered species or native ecological communities.

Fire

MA1b-GDL-FIRE-01. Natural, unplanned ignitions may be managed to meet resource objectives.

MA1b-GDL-FIRE-02. Planned ignitions may be used as a tool for ecosystem restoration purposes where the need is linked to human-induced changes caused by factors such as fire suppression and/or the introduction of non-native species.

Access and Recreation

MA1b-GDL-AR-01. Motorized equipment (e.g., chainsaw, generator) is not allowed, with the exception of hand-held motorized equipment for administrative use.

MA1b-GDL-AR-02. Management activities should be consistent with the Scenic Integrity Objective of Very High.

Timber

MA1b-GDL-TBR-01. Cutting of trees is allowed for such things as trail maintenance or hazard tree mitigation.

Minerals

MA1b-GDL-MIN-01. Mineral leasing is available with stipulations that would preserve the wilderness characteristics (such as no surface occupancy).

Special Forest Products and Firewood

MA1b-GDL-SFP-01. Use for personal purposes is allowed, but without the aid of motorized equipment (e.g., chainsaws).

MA1c—Wilderness Study Area

Description

The KNF manages one Wilderness Study Area (WSA) – the Ten Lakes WSA. Ten Lakes (34,100 acres) was congressionally designated as a WSA in the Montana Wilderness Study Act of 1977 (Public Law 95-150). It is administered to maintain the wilderness character and the potential for inclusion in the National Wilderness Preservation System that existed in 1977 when the act was passed. Some uses that existed prior to the 1977 Act continue to occur.

Desired Condition

Vegetation

MA1c-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Fire

MA1c-DC-FIRE-01. Fire plays an increased role as a natural disturbance agent.

Watersheds and Water Quality

MA1c-DC-WTR-01. Water bodies and riparian areas provide quality habitat for fish, amphibians, and other aquatic-associated species.

Wildlife

MA1c-DC-WL-01. Large remote areas with little human disturbance such as those found in this MA (in conjunction with MAs 1a, 1b, and 5a, 5b, 5c) are retained and contribute habitats for species with large home ranges. Habitat conditions within these management areas contribute to wildlife movement within and across the Forest.

Access and Recreation

MA1c-DC-AR-01. This area primarily offers opportunities for primitive recreation, although uses established and allowed prior to the legislation are retained if they maintain the wilderness character and the potential for inclusion in the National Wilderness Preservation System that existed in 1977.

MA1c-DC-AR-02. Preservation of historical properties may occur, although buildings and other structures are rare.

MA1c-DC-AR-03. Summer recreation opportunities and experiences are consistent with the ROS classification of semi primitive non-motorized. Winter recreation opportunities and experiences are consistent with the ROS classification of semi primitive motorized.

Standards

Access and Recreation

MA1c-STD-AR-01. Motor vehicle use (excluding over-snow vehicle use) is not allowed. Over-snow vehicle use is not allowed except where it maintains the wilderness character as it existed at the time of designation (1977) and the potential for inclusion in the National Wilderness Preservation System.

MA1c-STD-AR-02. Mechanized use is not allowed (e.g., mountain bikes and other wheeled equipment), except where it maintains the wilderness character as it existed at the time of designation (1977) and the potential for inclusion in the National Wilderness Preservation System.

MA1c-STD-AR-03. Road construction is not allowed.

MA1c-STD-AR-04. Reconstruction of roads is not allowed.

Timber

MA1c-STD-TBR-01. Timber harvest is not allowed.

Minerals

MA1c-STD-MIN-01. Mineral leasing is legally unavailable.

MA1c-STD-MIN-02. The removal of mineral materials is not allowed.

Grazing

MA1c-STD-GRZ-01: Grazing is not allowed.

Special Forest Products and Firewood

MA1c-STD-SFP-01. Use for commercial purposes is not allowed.

Guidelines

Vegetation

MA1c-GDL-VEG-01. Non-native invasive plant species may be treated and other vegetation restoration projects may occur if the need is linked to human-induced changes and is necessary for the recovery of threatened and endangered species or native ecological communities.

Fire

MA1c-GDL-FIRE-01. Natural, unplanned ignitions may be managed to meet resource objectives.

MA1c-GDL-FIRE-02. Planned ignitions may be used as a tool for ecosystem restoration purposes where the need is linked to human-induced changes caused by factors such as fire suppression and/or the introduction of non-native species.

Access and Recreation

MA1c-GDL-AR-01. Motorized equipment (e.g., chainsaw, generator) is not allowed, with the exception of hand-held motorized equipment for administrative use.

MA1c-GDL-AR-02. Management activities should be consistent with the Scenic Integrity Objective of Very High.

Timber

MA1c-GDL-TBR-01. Cutting of trees is allowed for such things as trail maintenance or hazard tree mitigation.

Special Forest Products and Firewood

MA1c-GDL-SFP-01. Use for personal purposes is allowed.

MA2—Eligible Wild and Scenic Rivers

Description

This MA applies to river segments that have been identified as eligible for inclusion as part of the Wild and Scenic Rivers System (WSR) under the authority granted by the Wild and Scenic Rivers Act of 1968, as amended. Eligible rivers and adjacent areas are managed to protect the free-flowing nature of these rivers, and outstandingly remarkable scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values for the benefit and enjoyment of present and future generations. Congressional action designates these areas. As defined by the act, eligible rivers are classified as:

- **Wild Rivers:** Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- **Scenic Rivers:** Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- **Recreational Rivers:** Those rivers or sections of rivers readily accessible by road or railroad that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

A total of 150 miles of river within NFS lands have been identified as eligible in this Forest Plan (table 10).

Table 10. Eligible Wild and Scenic Rivers

River—Outstandingly Remarkable Value	District	Status	Preliminary Classification	NFS Miles	NFS Acres
Kootenai River—Scenery, Fisheries, Recreation, Wildlife, and History					
Seg. 1	Libby	Eligible	Recreational	1.3	737
Seg. 2	Libby	Eligible	Recreational	1.9	363
Seg. 3	3 Rivers/Libby	Eligible	Recreational	5.0	2,299
Seg. 4	3 Rivers	Eligible	Recreational	0.5	237
Seg. 5	3 Rivers	Eligible	Recreational	6.7	2,308
Yaak River—Scenery, Botany, Recreation, and History					
Seg. 1	3 Rivers	Eligible	Recreational	3.5	1,842
Seg. 2	3 Rivers	Eligible	Recreational	7.1	2,734
Seg. 3	3 Rivers	Eligible	Recreational	6.2	2,068
Seg. 4	3 Rivers	Eligible	Scenic	9.0	2,586
West Fork Yaak River—Scenery and History					
Seg. 1	3 Rivers	Eligible	Wild	4.2	1,330

River—Outstandingly Remarkable Value	District	Status	Preliminary Classification	NFS Miles	NFS Acres
Seg. 2	3 Rivers	Eligible	Recreational	4.5	1,428
Vinal Creek System—Scenery and Recreation					
Vinal Creek/Seg. 1	3 Rivers	Eligible	Scenic	3.9	1,074
Turner Creek/Seg. 2	3 Rivers	Eligible	Scenic	1.1	386
Vermilion River—Scenery and History					
Seg. 1	Cabinet	Eligible	Recreational	11.1	3,599
Bull River System—Scenery					
Bull River/Seg. 1	Cabinet	Eligible	Recreational	5.7	1,911
Bull River/Seg. 2	Cabinet	Eligible	Recreational	3.4	1,608
North Fork and Middle Fork Bull River/Seg.3	Cabinet	Eligible	Wild	12.6	4,135
East Fork Bull River/Seg. 4	Cabinet	Eligible	Recreational	4.1	1,119
East Fork Bull River/Seg. 5	Cabinet	Eligible	Wild	3.0	997
North Fork of the East Fork Bull River/Seg. 6	Cabinet	Eligible	Recreational	2.2	616
North Fork of the East Fork Bull River/Seg. 7	Cabinet	Eligible	Wild	1.4	497
Big Creek System—Recreation and Geology					
Big Creek/Seg.1	Rexford	Eligible	Recreational	7.6	2,261
South Fork Big Creek/Seg. 2	Rexford	Eligible	Recreational	6.7	2,103
Little North. Fork Big Creek/Seg. 3	Rexford	Eligible	Wild	1.6	452
Good Creek/Seg. 4	Rexford	Eligible	Wild	2.4	717
North Fork Big Creek/Seg. 5	Rexford	Eligible	Wild	5.6	1,797
Copeland Creek/Seg. 6	Rexford	Eligible	Wild	1.8	564
Lookout Creek/Seg. 7	Rexford	Eligible	Wild	2.4	725
East Fork Lookout Creek/Seg. 7	Rexford	Eligible	Wild	1.5	443
Unnamed Tributary to Lookout Creek/Seg. 7	Rexford	Eligible	Wild	1.7	515
Callahan Creek					
Callahan Creek/Seg. 1	3 Rivers	Eligible	Recreational	6.2	1,326

River—Outstandingly Remarkable Value	District	Status	Preliminary Classification	NFS Miles	NFS Acres
South Fork Callahan Creek/Seg. 2	3 Rivers	Eligible	Recreational	6.8	971
Ross Creek System					
Ross Creek/Seg. 1	3 Rivers	Eligible	Scenic	2.6	811
Ross Creek/Seg. 2	3 Rivers	Eligible	Wild	4.8	1,527
Total[1]				**150.0**	**48,086**

[1] Total acres are more than those shown in table 8 because of overlapping management areas. As noted with table 8 several management areas are higher in the hierarchy than MA2. There are 4,200 acres of MA2 within MA1a, and 2,500 acres in MA1b.

Desired Condition

Vegetation

MA2-DC-VEG-01. Wild/Scenic/Recreational. Natural ecological processes (e.g., plant succession) and disturbances (e.g., floods, fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

MA2-DC-VEG-02. Wild. Non-native invasive plants are rare in eligible wild river segments.

Fire

MA2-DC-FIRE-01. Wild/Scenic/Recreational. Fire plays an increased role as a natural disturbance agent.

Access and Recreation

MA2-DC-AR-01. Wild/Scenic/Recreational. Eligible wild, scenic, or recreational rivers and their adjacent areas retain their free-flowing status and preliminary classification, and conserve or enhance their outstandingly remarkable values.

MA2-DC-AR-02. Wild. Eligible wild river segments provide non-motorized opportunities for exploration, solitude, risk, challenge, and primitive recreation. Motor vehicle use does not occur.

MA2-DC-AR-03. Wild. Opportunities for solitude are moderate to high with few human encounters in eligible wild river segments.

MA2-DC-AR-04. Wild. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of primitive or semi-primitive non-motorized in eligible wild river segments.

MA2-DC-AR-05. Wild. Preservation of historic properties may occur, although buildings and other structures are rare in eligible wild river segments.

MA2-DC-AR-06. Scenic. Eligible scenic river segments provide primarily non-motorized and limited motorized recreation opportunities. These areas provide opportunities for non-motorized use, motor vehicle use on designated roads and trails, and over-snow vehicle use.

MA2-DC-AR-07. Scenic. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of semi-primitive non-motorized to roaded natural in eligible scenic river segments.

MA2-DC-AR-08. Scenic/Recreational. Preservation of historic properties may occur in eligible scenic and recreational river segments.

MA2-DC-AR-09. Recreational. Eligible recreational river segments provide a wide variety of motorized and non-motorized recreation opportunities. Development within river corridors is designed for recreational use by the forest visitor while protecting the environment and river-related resources. These areas provide opportunities for non-motorized use, motor vehicle use on designated roads and trails, and over-snow vehicle use.

MA2-DC-AR-10. Recreational. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of semi-primitive motorized or roaded natural in eligible recreational river segments.

Standards

Timber

MA2-STD-TBR-01. Wild. Timber harvest is not allowed in eligible wild river segments.

Minerals

MA2-STD-MIN-01. Wild. Removal of mineral materials is not allowed in eligible wild river segments.

Grazing

MA2-STD-GRZ-01. Wild/Scenic/Recreational. Grazing is not allowed.

Special Forest Products and Firewood

MA2-STD-SFP-01. Wild/Scenic/Recreational. Use for commercial purposes is not allowed.

Guidelines

Vegetation

MA2-GDL-VEG-01. Wild. Non-native invasive plant species may be treated and other vegetation restoration projects may occur if the need is linked to human-induced changes and is necessary for the recovery of threatened, endangered, and sensitive species or native ecological communities in eligible wild river segments.

Fire

MA2-GDL-FIRE-01. Wild. Natural, unplanned ignitions may be managed to meet resource objectives in eligible wild river segments.

MA2-GDL-FIRE-02. Wild. Planned ignitions may be used as a tool for ecosystem restoration purposes where the need is linked to human-induced changes caused by factors such as fire suppression and/or the introduction of non-native species in eligible wild river segments.

MA2-GDL-FIRE-03. Scenic/Recreational. Natural, unplanned ignitions, as well as planned ignitions, may be managed to meet resource objectives in eligible scenic and recreational river segments.

Access and Recreation

MA2-GDL-AR-01. Wild. Additional routes and areas should not be designated for motor vehicle use in eligible wild river segments.

MA2-GDL-AR-02. Wild/Scenic/Recreational. Mechanized use (e.g., mountain bikes and other wheeled equipment) is allowed.

MA2-GDL-AR-03. Wild. Road construction should not occur in eligible wild river segments.

MA2-GDL-AR-04. Wild/Scenic/Recreational. Reconstruction of roads is allowed.

MA2-GDL-AR-05. Wild. Management activities should be consistent with the Scenic Integrity Objective of Very High in eligible wild river segments.

MA2-GDL-AR-06. Scenic/Recreational. Motor vehicle use is allowed in eligible scenic and recreational river segments.

MA2-GDL-AR-07. **Scenic/Recreational.** Road construction is allowed in eligible scenic and recreational river segments.

MA2-GDL-AR-08. Scenic. Management activities should be consistent with the Scenic Integrity Objective of High in eligible scenic river segments.

MA2-GDL-AR-09. Recreational. Management activities should be consistent with the Scenic Integrity Objective of Moderate to High in eligible recreational river segments.

Timber

MA2-GDL-TBR-01. Wild. Cutting of trees is allowed for such things as trail maintenance or hazard tree mitigation in eligible wild river segments.

MA2-GDL-TBR-02. Scenic/Recreational. Timber harvest is allowed to maintain or restore the values for which the eligible scenic or recreational river was identified. Timber harvest is not scheduled and does not contribute towards the allowable sale quantity.

Minerals

MA2-GDL-MIN-01. **Wild/Scenic/Recreational.** Mineral leasing is available with stipulations that would preserve the outstandingly remarkable values (such as no surface occupancy).

MA2-GDL-MIN-02. Scenic/Recreational. Removal of mineral materials is allowed in eligible scenic and recreational river segments.

Special Forest Products and Firewood

MA2-GDL-SFP-01. Wild/Scenic/Recreational. Use for personal purposes is allowed.

MA3—Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas

Description

Located across the Forest, these special places (table 11) have unique, unusual, or important characteristics. They are administratively designated areas and managed for public use and enjoyment to protect and conserve the values for which they were identified. They are usually small (less than 1,000 acres) except for Scenic or Recreational areas that are usually several thousand acres in size. Individual

areas of like classification are managed similarly. Management activities may vary where there are multiple classifications, in which case the most restrictive guidance applies.

Table 11. Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas

Name	District	Acres	Classification
494 Road Bedrock Meadow	Fortine	35	Botanical
Bad Medicine	Three Rivers	1,938	Zoological
Barnum Wetland	Libby	227	Botanical
Barron Creek	Libby	326	Historical
Berray Cedars[1]	Cabinet	86	Botanical
Bitterroot Point	Libby	126	Botanical
Callahan Historic Mining and Logging District	Three Rivers	3,262	Historical
Cody Lakes	Libby	194	Botanical/Zoological
Devil Gap[1]	Cabinet	831	Geological
East Fork Bull River	Cabinet	109	Botanical
East Fork Pipe Creek	Libby	1,118	Geological
Falls Creek	Three Rivers	42	Scenic/Geological
Flower Lake	Libby	16	Botanical
Frank Lake Fishing Access[1]	Fortine	91	Recreational
French Creek Cedars	Three Rivers	131	Botanical
Gateway Prairie	Rexford	2,147	Botanical
Halverson Face	Three Rivers	47	Botanical
Hamilton Gorge	Fortine	144	Geological
Hidden Lake[1]	Fortine	607	Botanical
Kelsey Creek	Three Rivers	53	Botanical
Kenelty Caves	Libby	87	Geological
Kootenai Falls[1]	Three Rivers/Libby	420	Historical
Little North Fork Falls	Rexford	6	Recreational
Lost Horse Fen	Three Rivers	308	Botanical
Lower Sunday Creek Ecosystem	Fortine	150	Botanical
Lower West Fork Yaak Falls[1]	Three Rivers	274	Geological
Northwest Peak Scenic Area[1]	Three Rivers	13,248	Scenic

Name	District	Acres	Classification
Pete Creek	Three Rivers	320	Botanical
Pinkham Falls	Rexford	21	Geological
Rexford Hoodoos[1]	Rexford	76	Geological
Rock Creek Meadows	Cabinet	185	Botanical
Rocky Fivemile Forest	Fortine	215	Botanical
Ross Creek Scenic Area[1]	Three Rivers	101	Scenic
Ross Falls	Three Rivers	44	Geological
Spar Springs	Three Rivers	196	Geological
Spread Otis Creeks	Three Rivers	382	Botanical
Star Creek Canyon[1]	Three Rivers	81	Geological
Stone Hill	Rexford	760	Recreational/Geological
Sutton Falls	Rexford	113	Geological
Swamp Mountain Meadows	Fortine	45	Botanical
Ten Lakes Scenic Area[1]	Fortine	14,945	Scenic
Tenmile Falls	Rexford	187	Geological
Tenmile Talus[1]	Rexford	390	Geological
Tepee Lake	Libby	46	Botanical
Therriault Pass	Fortine	493	Geological
Upper Big Creek Riparian Ecosystem[1]	Rexford/Libby	2,966	Botanical
Vermilion Falls	Cabinet	99	Recreational
Vinal Lake	Three Rivers	83	Botanical
Wood Creek Larch Scenic Area[1]	Three Rivers	115	Scenic
Yaak Falls	Three Rivers	44	Historical
Yahk Mining District[1]	Three Rivers	456	Historical
Total Acres[2]		**48,386**	

[1] Areas designated under the 1987 Forest Plan (as amended)

[2] Total acres are more than those shown in table 8 because of overlapping management areas. As noted with table 8, several management areas are higher in the hierarchy than MA3. There are 40 acres of MA3 within MA1a, 100 acres in MA1b, 15,400 acres in MA1c, 1,350 acres in MA2, and 100 acres in MA4.

Desired Condition

Vegetation

MA3-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., insects and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Fire

MA3-DC-FIRE-01. The use of natural, unplanned ignitions is somewhat limited in most of these special areas due to the risk that unplanned ignitions could pose to the unique characteristics and values for which these areas were identified.

Wildlife

MA3-DC-WL-01. The Northwest Peak and Ten Lakes areas, in combination with MAs 1 and 5, contain large remote areas that contribute to movement across the Forest. These areas additionally provide secure habitat, foraging, denning, and nesting for wildlife.

Access and Recreation

MA3-DC-AR-01. These areas are maintained in a substantially natural condition for use by the public while protecting those special characteristics for which they are designated.

MA3-DC-AR-02. Summer and winter recreation opportunities and experiences are consistent with the ROS classification in the following areas:

- Botanical: Semi Primitive Non-Motorized
- Geological: Semi Primitive Motorized to Roaded Natural
- Scenic: Semi Primitive Motorized
- Recreational: Semi Primitive Motorized to Roaded Natural
- Historical: Semi Primitive Non-Motorized
- Zoological: Semi Primitive Non-Motorized

MA3-DC-AR-03. Interpretation of resources for public education or recreation is provided in some of these areas. Buildings are rare; however preservation of historic properties may occur.

MA3-DC-AR-04. Botanical, Historical, and Zoological Areas emphasize non-motorized recreation opportunities. Motor vehicle use does not occur in these areas.

MA3-DC-AR-05. Recreational, Geological, and Scenic Areas provide motorized and non-motorized recreation opportunities. These areas provide opportunities for non-motorized use, motor vehicle use on designated roads and trails, and over-snow vehicle use.

Standards

Access and Recreation

MA3-STD-AR-01. Road construction is not allowed in Botanical, Historical, and Zoological Areas.

Timber

MA3-STD-TBR-01. Timber harvest is allowed to maintain or restore the values for which the Special Area was identified. Timber harvest is not scheduled and does not contribute towards the allowable sale quantity.

Minerals

MA3-STD-MIN-01. Removal of mineral materials is not allowed.

Grazing

MA3-STD-GRZ-01. Grazing is not allowed.

Special Forest Products and Firewood

MA3-STD-SFP-01. Use for commercial purposes is not allowed.

MA3-STD-SFP-02. Use for personal purposes is not allowed in Botanical, Historical, and Zoological Areas.

Guidelines

Fire

MA3-GDL-FIRE-01. The use of natural, unplanned ignitions is generally not allowed in these areas unless the values and unique characteristics for which the area was designated can be maintained or enhanced by the use of fire, and the risk of harm from an unplanned ignition is small. The Northwest Peaks and Ten Lakes Scenic Areas are two exceptions, because the use of natural, unplanned ignitions in those areas is generally appropriate.

MA3-GDL-FIRE-02. Planned ignitions may be used if the values and unique characteristics for which the area was designated can be maintained, enhanced, or protected by the use of planned ignitions.

Access and Recreation

MA3-GDL-AR-01. Additional routes and areas should not be designated for motor vehicle use in Botanical, Historical, and Zoological Areas.

MA3-GDL-AR-02. Motor vehicle use is allowed in Geological, Recreational, and Scenic Areas.

MA3-GDL-AR-03. Mechanized use (e.g., mountain bikes and other wheeled equipment) is allowed in Botanical, Historic, and Zoological Areas on National Forest System routes only (i.e., national forest system trails or roads).

MA3-GDL-AR-04. Mechanized use (e.g., mountain bikes and other wheel equipment) is allowed in Geological, Recreational, and Scenic Areas.

MA3-GDL-AR-05. Road construction is allowed in Geological, Recreational, and Scenic Areas.

MA3-GDL-AR-06. Reconstruction of roads is allowed.

MA3-GDL-AR-07. Management activities in the Northwest Peak, Ten Lakes, Ross Creek Cedars, and Wood Creek Larch Scenic Areas should be consistent with the Scenic Integrity Objective of High to Very High.

MA3-GDL-AR-08. Management activities in the other classifications should be consistent with the Scenic Integrity Objective of Moderate to High.

Minerals

MA3-GDL-MIN-01. Mineral leasing is available.

Special Forest Products and Firewood

MA3-GDL-SFP-01. Use for personal purposes is allowed in Geological, Recreational, and Scenic areas.

MA4—Research Natural Areas

Description

The KNF has 11 RNAs (table 12). They are established to provide for the study and protection of a full range of habitat types identified in the "Research Natural Areas of the Northern Region: Status and Needs Assessment" (1996). These areas form a long-term network of ecological reserves established as baseline areas for non-manipulative research, education, and the maintenance of biodiversity. Most of these areas protect late-seral or climax vegetation conditions. These RNAs generally contain undisturbed conditions that are valuable in monitoring the effects of climate change to ecosystems in a late-seral or climax condition.

The RNAs are cooperatively managed with the Rocky Mountain Research Station. This Forest Plan designates three new RNAs.

Table 12. Research Natural Areas (RNAs)

RNA Name	GA Name	District	Acres
Big Creek	Koocanusa	Rexford	178
Doonan Peak[1]	Bull	Three Rivers	504
Hoskins Lake	Yaak	Three Rivers	376
Huson Peak[1]	Yaak/Libby	Libby	1,715
LeBeau	Tobacco	Fortine	411
Lower Ross Creek	Bull	Three Rivers	1,874
Norman Parmenter	Libby	Libby	1,289
Pete Creek Meadows	Yaak	Three Rivers	153
Seven Point Genetical[1]	Clark	Cabinet	2,390
Ulm Peak	Clark	Cabinet	689
Wolf Weigel	Fisher	Libby	240
Total RNA Acres			**9,819**

[1] New RNAs designated by this Forest Plan

Desired Condition

Vegetation

MA4-DC-VEG-01. Under special circumstances, deliberate manipulation may be used to maintain or reestablish ecological processes within RNA (if approved in the RNA management plan or Establishment Record).

MA4-DC-VEG-02. Non-native invasive plants are rare.

MA4-DC-VEG-03. Non-manipulative research activities and projects are conducted with non-motorized equipment.

Access and Recreation

MA4-DC-AR-01. Buildings are not present within these areas.

MA4-DC-AR-02. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of primitive.

MA4-DC-AR-03. Preservation of historic properties may take place if addressed in the Establishment Record or RNA management plan.

MA4-DC-AR-04. Trails are uncommon, with non-motorized use and other recreational activities infrequent.

MA4-DC-AR-05. These areas are substantially free from human activities, although research and educational activities occur.

Standards

Access and Recreation

MA4-STD-AR-01: Motor vehicle use is not allowed.

MA4-STD-AR-02. Road construction is not allowed.

Minerals

MA4-STD-MIN-01. Removal of mineral materials is not allowed.

Grazing

MA4-STD-GRZ-01. Grazing is not allowed.

Special Forest Products and Firewood

MA4-STD-SFP-01. Use for commercial purposes is not allowed.

MA4-STD-SFP-02. Use for personal purposes is not allowed.

Guidelines

Fire

MA4-GLD-FIRE-01. Planned ignitions or the use of natural, unplanned ignitions may only occur as identified in the RNA Establishment Record and/or approved RNA management plan indicates otherwise.

Access and Recreation

MA4-GDL-AR-01. Management activities should be consistent with the Scenic Integrity Objective of Very High.

MA4-GDL-AR-02. Mechanized use (e.g., mountain bikes and other wheeled equipment) is allowed on National Forest System routes only (i.e., national forest system trails or roads).

MA4-GDL-AR-03. Reconstruction of roads may occur if consistent with the RNA Establishment Record and/or approved RNA management plan.

Timber

MA4-GDL-TBR-01. Timber harvest or cutting of trees may only occur as identified in the RNA Establishment Record or approved RNA management plan.

Minerals

MA4-GDL-MIN-01. Mineral leasing is available with stipulations that would be consistent with the RNA management plan.

MA5a, 5b, and 5c—Backcountry

Description

Approximately 95 percent of this MA is within inventoried roadless areas. This MA is made up of relatively large areas (generally without roads) and provides a variety of motorized and non-motorized recreation opportunities. Trails are the primary improvements constructed and maintained for recreation users. In some areas, lookouts, cabins, or other structures are present as well as some evidence of management activities. If within an inventoried roadless area, management requirements under 36 CFR 294 Subpart B, 66 Fed Reg. 3244-3273 (outside of Idaho) or Subpart C (inside Idaho) apply.

Desired Condition – MA5a, MA5b, and MA5c

Vegetation

MA5a,b,c-DC-VEG-01. Natural ecological processes (e.g., plant succession) and disturbances (e.g., fire, insects, and disease) are the primary forces affecting the composition, structure, and pattern of vegetation.

Fire

MA5a,b,c-DC-FIRE-01. The use of fire serves as the primary tool for trending the vegetation towards the desired conditions as well as serving other important ecosystem functions.

Watersheds and Water Quality

MA5a,b,c-DC-WTR-01. Water bodies and riparian areas provide quality habitat for fish, amphibians, and other aquatic-associated species.

Wildlife

MA5a,b,c-DC-WL-01. Large remote areas with little human disturbance such as those found in these MAs (in conjunction with MAs 1a, 1b, and 1c) are retained and contribute habitats for species with large home ranges. Habitat conditions within these management areas contribute to wildlife movement within and across the Forest. These areas also provide foraging, security, denning, and nesting habitat for wildlife.

Access and Recreation

MA5a,b,c-DC-AR-01. These areas provide more remote and undeveloped recreation experiences largely through the management of the various trail systems (i.e., motorized and non-motorized).

MA5a,b,c-DC-AR-02. Summer and winter recreation opportunities and experiences are consistent with the ROS classifications of semi-primitive motorized and non-motorized.

MA5a,b,c-DC-AR-03. Construction of new facilities is rare.

MA5a,b,c-DC-AR-04. Preservation of historical features may occur, although buildings and other structures are rare.

MA5a-DC-AR-05. MA5a provides opportunities for year-round non-motorized use. Motor vehicle use does not occur.

MA5b-DC-AR-06. MA5b provides opportunities for year-round non-motorized use, motor vehicle use on designated roads and trails, and over-snow vehicle use.

MA5c-DC-AR-07. MA5c provides opportunities for year-round non-motorized use and over-snow vehicle use. Motor vehicle use (excluding over-snow vehicle use) does not occur.

Timber

MA5a,b,c-DC-TBR-01. Timber harvest and road construction are limited and roads would generally be temporary.

Standards – MA5a, MA5b, and MA5c

Access and Recreation

MA5a,b,c-STD-AR-01. If within an inventoried roadless area outside of Idaho, road construction and reconstruction shall follow direction found in the 2001 Roadless Rule (36 CFR 294.12).

MA5a,b,c-STD-AR-02. If within an Idaho Roadless Area, road construction and reconstruction shall follow direction contained in 36 CFR 294.23 – Road construction and reconstruction in Idaho Roadless Areas.

Timber

MA5a,b,c-STD-TBR-01. Timber harvest is not scheduled and does not contribute towards the allowable sale quantity.

MA5a,b,c-STD-TBR-02. If within an inventoried roadless area outside of Idaho, timber harvest activities shall follow direction found in the 2001 Roadless Rule (36 CFR 294.13).

MA5a,b,c-STD-TBR-03. If within an Idaho Roadless Area, timber harvest activities shall follow direction contained in 36 CFR 294.24 – Timber cutting, sale, or removal in Idaho Roadless Areas.

Minerals

MA5a,b,c-STD-MIN-01. In areas not within Idaho Roadless Areas removal of mineral material is not allowed.

MA5a,b,c-STD-MIN-02. If within an Idaho Roadless Area, mineral activities shall follow direction found in 36 CFR 294.25 – Mineral Activities in Idaho Roadless Areas.

Guidelines – MA5a, MA5b, and MA5c

Fire

MA5a,b,c -GDL-FIRE-01. Natural, unplanned ignitions, as well as planned ignitions, may be used to meet resource objectives.

Access and Recreation

MA5a,b,c-GDL-AR-01. If not within an inventoried roadless area, road construction and reconstruction is allowed to maintain or restore resources.

MA5a-GDL-AR-02. Additional routes and areas should not be designated for motor vehicle use in MA5a.

MA5b-GDL-AR-03. Motor vehicle use may occur on designated routes and areas in MA5b. Over-snow vehicle use may occur in MA5b.

MA5c-GDL-AR-04. Additional routes and areas should not be designated for motor vehicle use (excluding over-snow vehicle use). Over-snow motor vehicle use may occur.

MA5a,b,c-GDL-AR-05. Mechanized use is allowed (e.g., mountain bikes and other wheeled equipment).

MA5a,b,c-GDL-AR-06. Management activities should be consistent with the Scenic Integrity Objective of Moderate to High.

Timber

MA5a,b,c-GDL-TBR-01. If not within an inventoried roadless area, timber harvest is allowed to maintain or restore other resource values.

Minerals

MA5a,b,c-GDL-MIN-01. Mineral leasing is available.

Grazing

MA5a,b,c-GDL-GRZ-01. Grazing is allowed.

Special Forest Products and Firewood

MA5a,b,c-GDL-SFP-01. Use for commercial purposes is allowed.

MA5a,b,c-GDL-SFP-02. Use for personal purposes is allowed.

MA6—General Forest

Description

Most of this MA consists of relatively large areas with roads, trails, and structures, as well as sign of past and ongoing activities designed to actively manage the forest vegetation. This MA provides a wide variety of recreation opportunities, both motorized and non-motorized. The density of motorized routes in this MA is higher than most of the other MAs. Constructed improvements in this MA generally consist of campgrounds, picnic or day use areas, trails, lookouts, and cabins. Most of the WUI on the Forest occurs within MA6 and activities designed to reduce hazardous fuels are common.

Vegetation and watershed restoration is accomplished predominantly through active management. Evidence of past management activities vary across the landscape, but are generally more noticeable in this MA than others. Many of the acres within this MA are suitable for the production of timber on a regulated basis, providing wood fiber in response to regional and national demand. However, there are other areas within this MA that are not suitable for timber production due to the value they have for other purposes. For example, old growth stands, riparian areas, and grizzly bear management units are common within this MA and are not managed for timber production.

Desired Condition

Vegetation

MA6-DC-VEG-01. In much of this MA, vegetation management activities have a dominant role in affecting the composition, structure, and pattern of vegetation. These management activities trend the vegetation towards the desired conditions. Although natural ecological processes and disturbances are still present, they are influenced more by human activity in this MA than in others.

Watersheds and Water Quality

MA6-DC-WTR-01. Watershed and vegetative restoration is achieved predominantly through restoration activities but also through natural ecological processes.

MA6-DC-WTR-02. Restoration activities in MA6 are designed to: improve watershed and aquatic resource conditions, improve vegetation conditions, reduce fuels, improve wildlife habitat, or for other resource objectives.

Access and Recreation

MA6-DC-AR-01. Existing recreation facilities are managed to accommodate public use and provide safe recreation experiences.

MA6-DC-AR-02. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of semi-primitive non-motorized to roaded natural.

MA6-DC-AR-03. A range of recreational opportunities (e.g., motorized and non-motorized) are provided within this MA while route conditions are maintained or improved.

Timber

MA6-DC-TBR-01. Timber production occurs on suitable lands within this MA.

Standards

Timber

MA6-STD-TBR-01. On lands suitable for timber production, timber harvest is allowed for the purpose of timber growth and yield while maintaining productive capacity. Timber harvest is scheduled and contributes to the allowable sale quantity.

MA6-STD-TBR-02. On lands not suitable for timber production, timber harvest is allowed to meet specific resource objectives other than timber growth and yield. Timber harvest is not scheduled and does not contribute towards the allowable sale quantity.

Guidelines

Fire

MA6-GDL-FIRE-01. Fuels are reduced, particularly within the wildland urban interface, to reduce the threat of wildland fire.

Access and Recreation

MA6-GDL-AR-01. Motor vehicle use is allowed.

MA6-GDL-AR-02. Mechanized use is allowed (e.g., mountain bikes and other wheeled equipment).

MA6-GDL-AR-03. Road construction is allowed.

MA6-GDL-AR-04. Reconstruction of roads is allowed.

MA6-GDL-AR-05. Management activities should be consistent with the Scenic Integrity Objective of Low to High.

Minerals

MA6-GDL-MIN-01. Mineral leasing is available.

MA6-GDL-MIN-02. Removal of mineral materials is allowed.

Grazing

MA6-GDL-GRZ-01. Grazing is allowed.

Special Forest Products and Firewood

MA6-GDL-SFP-01. Use for commercial purposes is allowed.

MA6-GDL-SFP-02. Use for personal purposes is allowed.

MA7—Primary Recreation Areas

Description

This MA applies to two areas on the KNF: the Turner Mountain Ski Area and the area around Lake Koocanusa (table 13). Turner Mountain is a lift-served downhill ski area with approximately a four month operating season. Lake Koocanusa, on the other hand, offers year-round recreation opportunities on 60 miles of the 90 mile long lake as the main attraction. A variety of campgrounds and boat ramps provide an array of recreational opportunities and water related experiences in a forested environment. The lake is flanked on the east and west sides by the 67 mile long Lake Koocanusa Scenic Byway.

Some lands adjacent to Lake Koocanusa are managed in conjunction with the Bonneville Power Administration (BPA) Wildlife Mitigation program and provide habitat for mule deer, bighorn sheep (Ural Tweed herd), and other big game.

Recreation use in these areas is high. The sounds of people are common and interaction between visitors is frequent. Past management activities both inside and outside these areas are easily noticeable to visitors.

Table 13. Primary Recreation Areas

Primary Recreation Areas	District	Acres
Lake Koocanusa Area	Libby and Rexford	14,907
Turner Mountain Ski Area	Libby	852
Total Acres[1]		**15,759**

[1] The total acres are more than those shown in table 8 because of overlapping management areas. As noted with table 8, several management areas are higher in the hierarchy than MA7. There are 100 acres in MA2, 2,500 acres in MA3 and 200 acres in MA4a.

Desired Condition

Vegetation

MA7-DC-VEG-01. Vegetation alterations are made while considering the natural-appearing landscape and timber may be harvested to enhance recreational values, mitigate safety concerns (e.g., hazardous tree removal), or for fuel reduction.

MA7-DC-VEG-02. Vegetative manipulation provides for safety and accommodates both existing and new facilities. Vegetative manipulation within ski areas maintains and creates ski runs.

Access and Recreation

MA7-DC-AR-01. These recreation areas and sites are maintained or improved to serve the forest visitor and provide a specific recreation experience. Major site modifications and facility installations (both private and public) are present in some of these areas. These installations and improvements appear individually or in a combination within recreational complexes.

MA7-DC-AR-02. Summer and winter recreation opportunities and experiences are consistent with the ROS classification of roaded natural and rural.

MA7-DC-AR-03. Trails are developed and maintained to a high standard.

MA7-DC-AR-04. Natural environments within these areas are modified to provide specific recreation experiences.

MA7-DC-AR-05. Many facilities are designed for specific activities used by large numbers of people and are fully accessible. These facilities blend in with the forest surroundings and provide the necessary services for forest visitors. Buildings and structures serve administrative and historic preservation purposes.

MA7-DC-AR-06. Signage increases user safety and provides relevant information. Interpretive information is provided where appropriate.

Cultural Resources

MA7-DC-CR-01. Areas with cultural resource values are protected from vandalism and looting.

Standards

Timber

MA7-STD-TBR-01. Timber harvest is allowed to maintain or restore the resource values of the recreational area. Timber harvest is not scheduled and does not contribute toward the allowable sale quantity.

Minerals

MA7-STD-MIN-01. Removal of mineral materials is not allowed at Turner Mountain Ski Area.

Guidelines

Fire

MA7-GDL-FIRE-01. Natural, unplanned ignitions, as well as planned ignitions, may be used to meet resource objectives.

Access and Recreation

MA7-GDL-AR-01. Motor vehicle use is allowed.

MA7-GDL-AR-02. Mechanized use is allowed (e.g., mountain bikes and other wheeled equipment).

MA7-GDL-AR-03. Road construction is allowed.

MA7-GDL-AR-04. Reconstruction of roads is allowed.

MA7-GDL-AR-05. Management activities should be consistent with the Scenic Integrity Objective of Low to High.

MA7-GDL-AR-06. Management activities in the Lake Koocanusa Area should be consistent with the Scenic Integrity Objective of Moderate.

Minerals

MA7-GDL-MIN-01. Mineral leasing is available.

MA7-GDL-MIN-02. Removal of mineral materials is allowed in the Lake Koocanusa Area.

Grazing

MA7-GDL-GRZ-01. Grazing may continue to occur within the West Kootenai allotment.

Special Forest Products and Firewood

MA7-GDL-SFP-01. Use for commercial purposes is allowed.

MA7-GDL-SFP-02. Use for personal purposes is allowed.

Summary of Uses by Management Area

Table 14 displays a summary of the activities allowed or desired by MA. This chart is not intended as a substitute for the actual desired conditions, standards, and guidelines found in each MA. It is intended as a summary and a reference for the reader to see what activities are generally allowed within different MAs. Please refer to the direction for each MA for specific direction.

Table 14. Summary of Generally Allowable or Desired Activities and Uses by Management Area

Management Areas	Timber Harvest	Timber Production (scheduled on rotation basis)	Commercial Use – Special Forest Products & Firewood	Personal Use – Special Forest Products & Firewood	Planned Fire ignitions	Natural Unplanned Fire Ignitions to meet Resource Objectives	Grazing	Motor Vehicle (excluding over-snow)	Over-snow Motor Vehicle	Mechanized (e.g., mountain bike)	Road Construction (permanent or temporary)	Road Reconstruction	Minerals - Leasable	Minerals - Mineral Materials
1a – Wilderness	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N
1b – Recommended Wilderness	N	N	N	Y	Y	Y	N	N	N	N	N	N	Y	N
1c – Wilderness Study Area (WSA)	N	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N
2 – Eligible Wild and Scenic Rivers (Wild)	N	N	N	Y	Y	Y	N	N	N	Y	N	Y	Y	N
2 – Eligible Wild and Scenic Rivers (Scenic and Recreational)	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
3 – Special Areas (Botanical and Zoological)	Y	N	N	N	Y	N	N	N	N	Y	N	Y	Y	N
3 – Special Areas (Historic)	Y	N	N	N	Y	N	N	N	N	Y	N	Y	Y	N
3 – Special Areas (Recreational and Geological)	Y	N	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	N
3 – Special Areas (Scenic)	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
4 – Research Natural Areas (RNA)	Y	N	N	N	Y	Y	N	N	N	Y	N	Y	Y	N
5a – Backcountry (Non-motorized Year-round)	Y	N	Y	Y	Y	Y	Y	N	N	Y	N	N	Y	N
5b – Backcountry (Motorized Year-round (Summer only on designated routes/areas))	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	N
5c – Backcountry (Motorized Winter, Non-motorized Summer)	Y	N	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y	N
6 – General Forest	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
7 – Primary Recreation Areas	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Chapter 4—Geographic Area Direction

Introduction

While the forestwide desired conditions describe management direction for the entire Forest, individual places across the KNF have their own distinct characteristics and conditions. These areas, referred to as "Geographic Areas" (GAs), have desired conditions that are specific to a locale, such as a river basin or valley. They define a landscape that people associate with and reflect community values and local conditions within that area. The GA desired conditions are not designed to substitute for or repeat forestwide desired conditions. Rather, they were developed to refine forestwide management to better respond to local conditions and situations that may occur within a specific GA. The KNF is divided into the following seven GAs (see figure 10).

- Bull
- Clark
- Fisher
- Koocanusa
- Libby
- Tobacco
- Yaak

Geographic Areas

Each GA section on the following pages provides:

- GA map displaying locator features, campgrounds, and major roads and streams;
- General location, description, and unique features providing a brief characterization of the area;
- Resource-specific description and desired conditions, describing a "place-based" picture of the forestwide desired condition for applicable resources; and

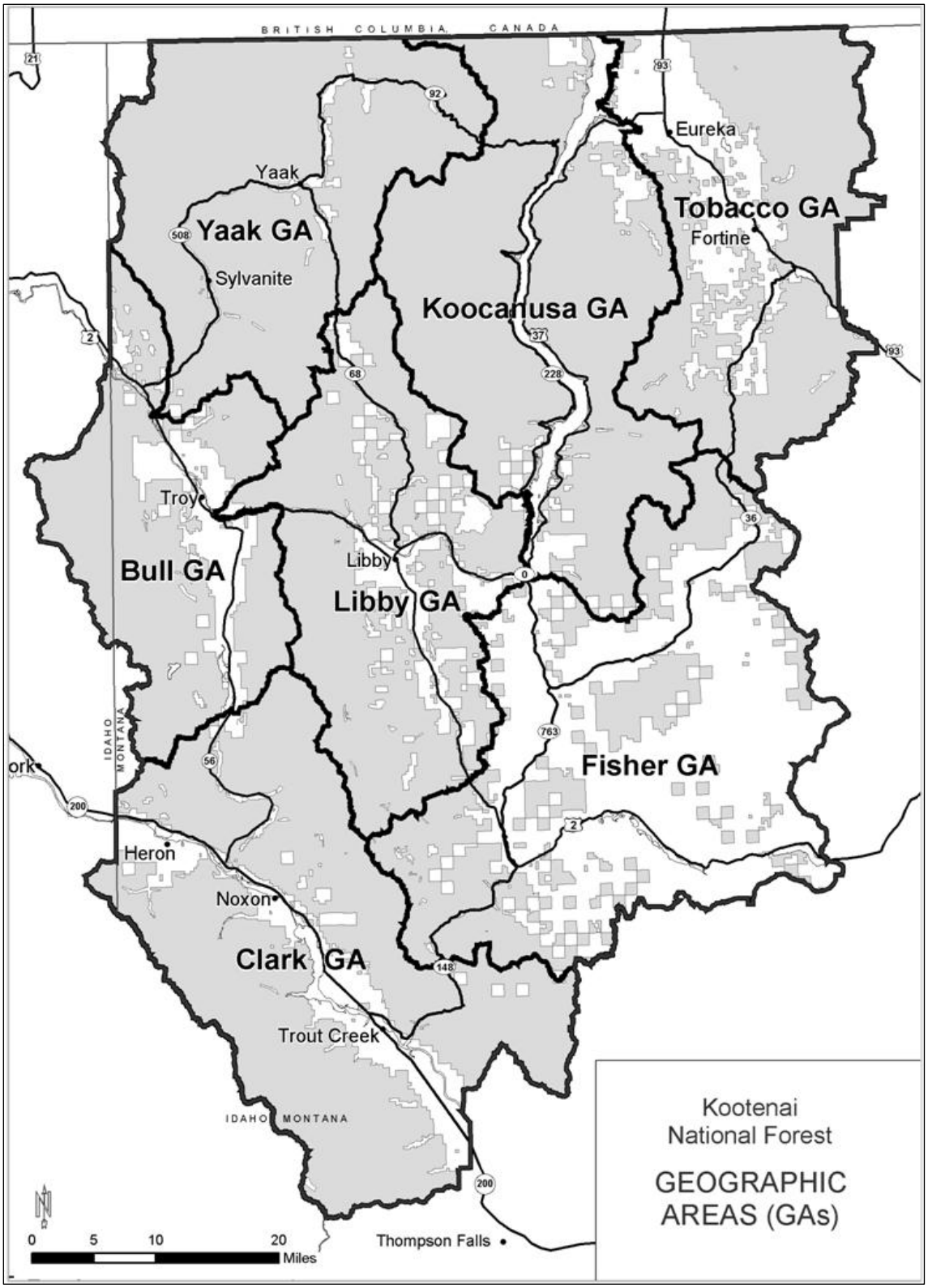


Figure 10. Kootenai National Forest Geographic Areas (GA)

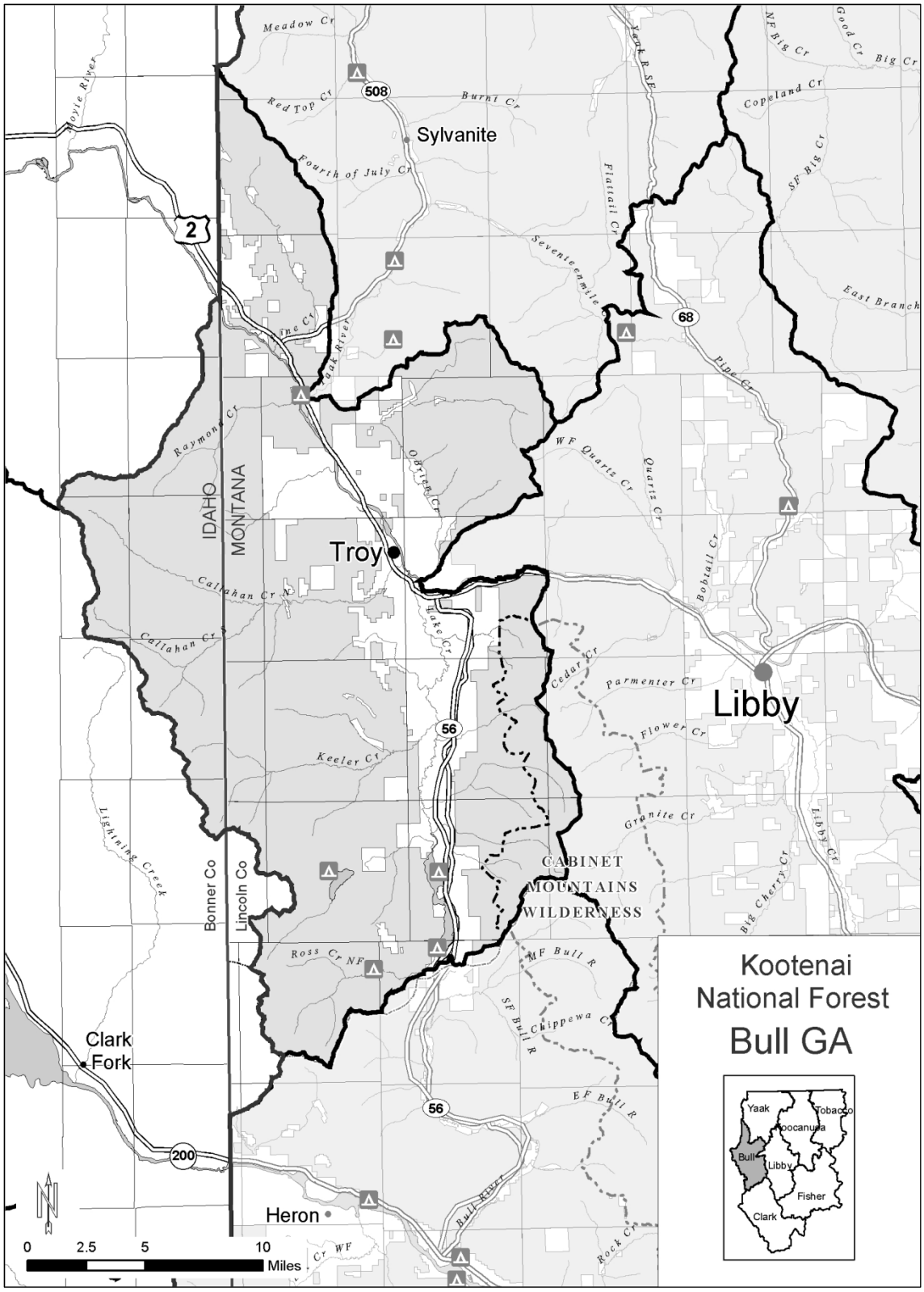


Figure 11. Bull Geographic Area

Bull Geographic Area

General Location and Description

The Bull Geographic Area (figure 11) lies predominantly in Lincoln County, Montana, with portions in Bonner and Boundary Counties of Idaho. Of the 294,600 acres within this GA, 233,840 acres (79 percent) are administered by the KNF. Communities include Troy, Montana and residential areas around several lakes. This GA is experiencing rapid development of lands that were formerly corporate timberlands, creating new subdivisions and increasing the size of the wildland urban interface. Mining and logging have been important industries in this area since the 1800s. The Troy Mine, an active silver and copper mine in this GA, is operated by Troy Mine Incorporated, a subsidiary of Revett Silver Company.

Desired Condition

Vegetation

GA-DC-VEG-BUL-01. Whitebark pine structure, composition, and function trend toward the desired vegetation condition within appropriate high elevation areas.

GA-DC-VEG-BUL-02. The south-facing slopes adjacent to the Kootenai River provide habitat for concentrations of Geyer's biscuitroot that have adapted to low-intensity, frequent fire disturbance.

GA-DC-VEG-BUL-03. Populations of new noxious weed species are treated promptly and eradicated. Established noxious weed infestations are reduced and habitat conditions are improved for native grasses, forbs, and shrubs. Private, county, state, and federal organizations work cooperatively to prevent, control, and manage noxious weed infestations.

Fire

GA-DC-FIRE-BUL-01. Threats of wildfire are reduced for the town of Troy, Highways 2 and 56, and outlying communities and structures.

Watersheds (Water, Soil, and Riparian Areas) and Aquatic Species

GA-DC-WTR-BUL-01. Habitat for native aquatic species, particularly bull trout, westslope cutthroat, and interior redband trout populations, respond to restoration activities in the O'Brien, Callahan, and Keeler Creek watersheds.

GA-DC-WTR-BUL-02. Source water protection is provided in O'Brien Creek for the town of Troy.

Wildlife

GA-DC-WL-BUL-01. Wildlife move through the Scotchman Peaks area, particularly wide-ranging carnivores, linking the Cabinet Mountains Wilderness and Selkirk Mountains through the West Cabinets.

GA-DC-WL-BUL-02. The timing of use and location of over-snow motorized recreation use in the Scotchman Peaks area provides secure habitat conditions for mountain goat use of winter habitats, and denning activities for wide-ranging carnivores that are sensitive to human disturbance (e.g., grizzly bear).

GA-DC-WL-BUL-03. Lands adjacent to Bull Lake provide nesting habitat for peregrine falcon with low levels of disturbance.

GA-DC-WL-BUL-04. Wildlife move along the Idaho/Montana border and from the West Cabinets into the Yaak, in the vicinity of the confluence of the Kootenai and Yaak Rivers. Wildlife also moves north-south through the Cabinet Mountains.

Access and Recreation

GA-DC-AR-BUL-01. Improvements are made to maintain or increase recreational opportunities, including the establishment of winter non-motorized trails in lower elevations.

Management Area Composition

Table 15 displays the acres identified within each MA for the Bull GA.

Table 15. Bull GA Management Area Acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1a	Wilderness	15,200	6.5%
1b	Recommended Wilderness	15,200	6.5%
2	Eligible Wild and Scenic Rivers	2,850	1.2%
3	Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas	5,560	2.4%
4	Established or Recommended Research Natural Area	2,560	1.1%
5a	Backcountry - Non-motorized Year-round	46,710	20.0%
5b	Backcountry - Motorized Year-round (Summer only on designated routes/areas)	480	0.2%
5c	Backcountry - Motorized Winter, Non-motorized Summer	25,940	11.1%
6	General Forest	119,340	51.0%
	Total NFS Lands	**233,840**	

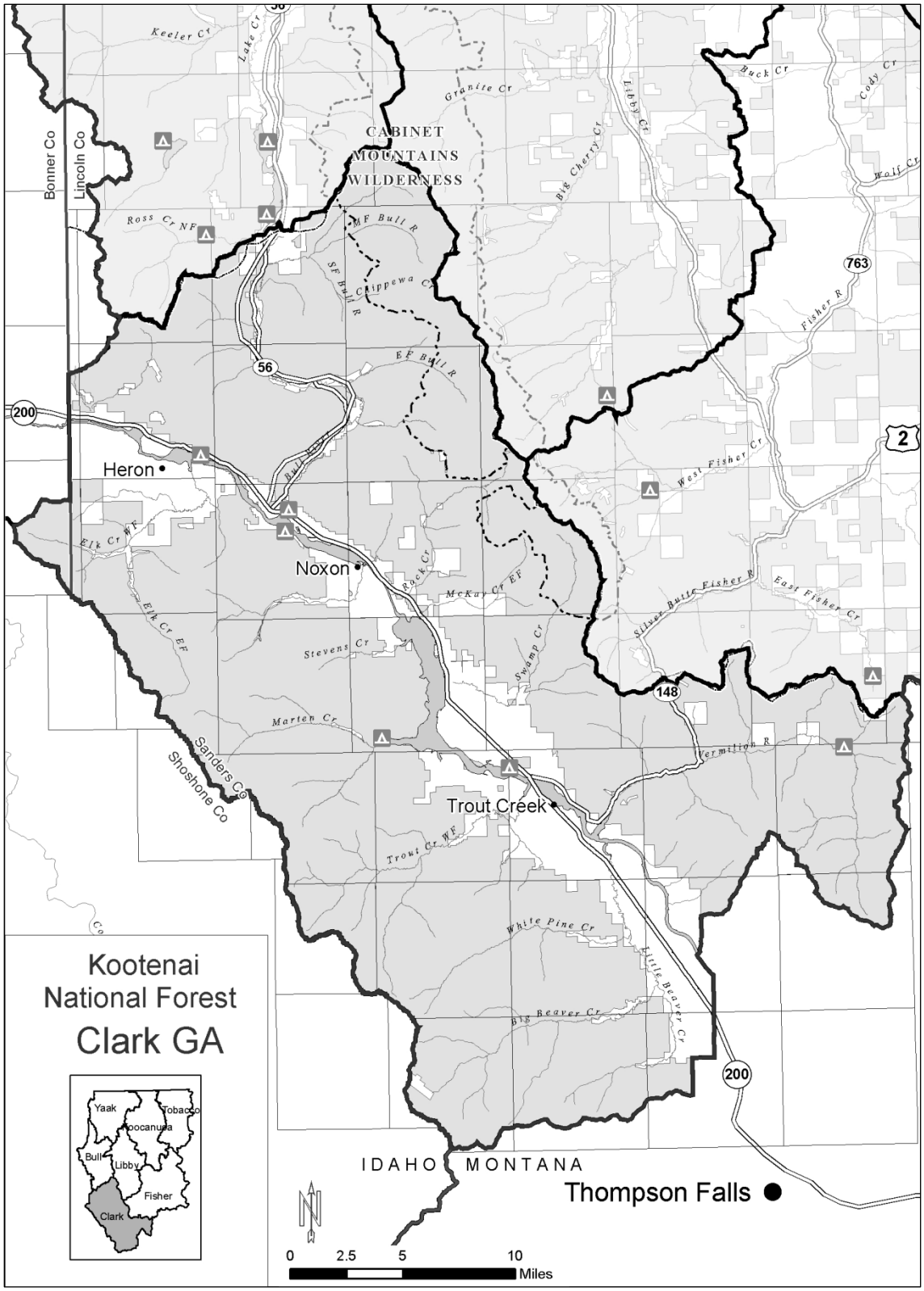


Figure 12. Clark Geographic Area

Clark Geographic Area

General Location and Description

The Clark GA (figure 12) lies primarily within Sanders County, with small portions in Bonner County, Idaho. Of the 528,000 acres within this GA, 432,060 acres (82 percent) are administered by the KNF. Communities include Trout Creek, Noxon, and Heron. The Clark Fork River Valley has been used as a travel corridor since prehistoric times. Northern Pacific Railroad built the nation's second transcontinental railway through this area and the first road built into northwest Montana was constructed near present-day Highway 200. The Cabinet Gorge Dam and Noxon Reservoir lie within this GA. Progress is being made towards developing a large hard-rock underground mine in the upper Rock Creek area.

Desired Condition

Vegetation

GA-DC-VEG-CLK-01. Provide for increased diversity in areas of large historic fires (1910, 1880s) for numerous plant and animal species. Vegetation trends toward the desired vegetation condition, with an increase in western larch and a decrease in Douglas-fir, as well as an increase in whitebark pine in appropriate high elevation areas.

GA-DC-VEG-CLK-02. Populations of new noxious weed species are treated promptly and eradicated. Established noxious weed infestations are reduced and habitat conditions are improved for native grasses, forbs, and shrubs. Private, county, state, and federal organizations work cooperatively to prevent, control, and manage noxious weed infestations.

Fire

GA-DC-FIRE-CLK-01. Threats of wildfire are reduced for the towns of Noxon, Trout Creek, Heron, and outlying communities and structures.

Watersheds (Water, Soil, and Riparian Areas) and Aquatic Species

GA-DC-WTR-CLK-01. Continue working with other agencies and utilities in facilitating native salmonid passage over Noxon and Cabinet Gorge Dams, and improving habitat conditions in tributaries.

GA-DC-WTR-CLK-02. Recovering watersheds such as Bull River and Marten Creek are improved and support designated beneficial uses.

Wildlife

GA-DC-WL-CLK-01. Habitat conditions on Berray Mountain for use by bighorn sheep, elk, and mule deer during the winter period is maintained or increased.

GA-DC-WL-CLK-02. National Forest System lands in the Trout Creek, East Fork Elk Creek, and Miller Creek drainages, Government Mountain area, and Scotchman Peaks area provide a high level of security (see glossary) during the big game hunting season.

GA-DC-WL-CLK-03. Wildlife move between the Cabinet Mountains and the West Cabinets, and NFS lands south of Highway 200. Wildlife also moves north-south through the Cabinet Mountains.

Access and Recreation

GA-DC-AR-CLK-01. Partnerships or cooperative agreements are pursued with local schools; Avista Corporation; Montana Fish, Wildlife and Parks; and other potential partners, in development and maintenance of access and recreational sites including the Adopt-A-Trail program.

GA-DC-AR-CLK-02. Trails to Snowshoe Lake and Little Ibex Lake will be evaluated for long-term maintenance needs.

GA-DC-AR-CLK-03. Snowmobile use along the ridgeline corridor east of Taylor Saddle and south to Bloom Peak (and the Bloom Peak bowls) is retained.

Management Area Composition

Table 16 displays the acres identified within each MA for the Clark GA.

Table 16. Clark GA Management Area Acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1a	Wilderness	39,510	9.1%
1b	Recommended Wilderness	31,760	7.4%
2	Eligible Wild and Scenic Rivers	9,300	2.2%
3	Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas	1,010	0.2%
4	Established or Proposed Research Natural Area	3,080	0.7%
5a	Backcountry - Non-motorized Year-round	80,810	18.7%
5b	Backcountry - Motorized Year-round (Summer only on designated routes/areas)	76,090	17.6%
5c	Backcountry - Motorized Winter, Non-motorized Summer	7,220	1.7%
6	General Forest	183,280	42.4%
	Total NFS Lands	**432,060**	

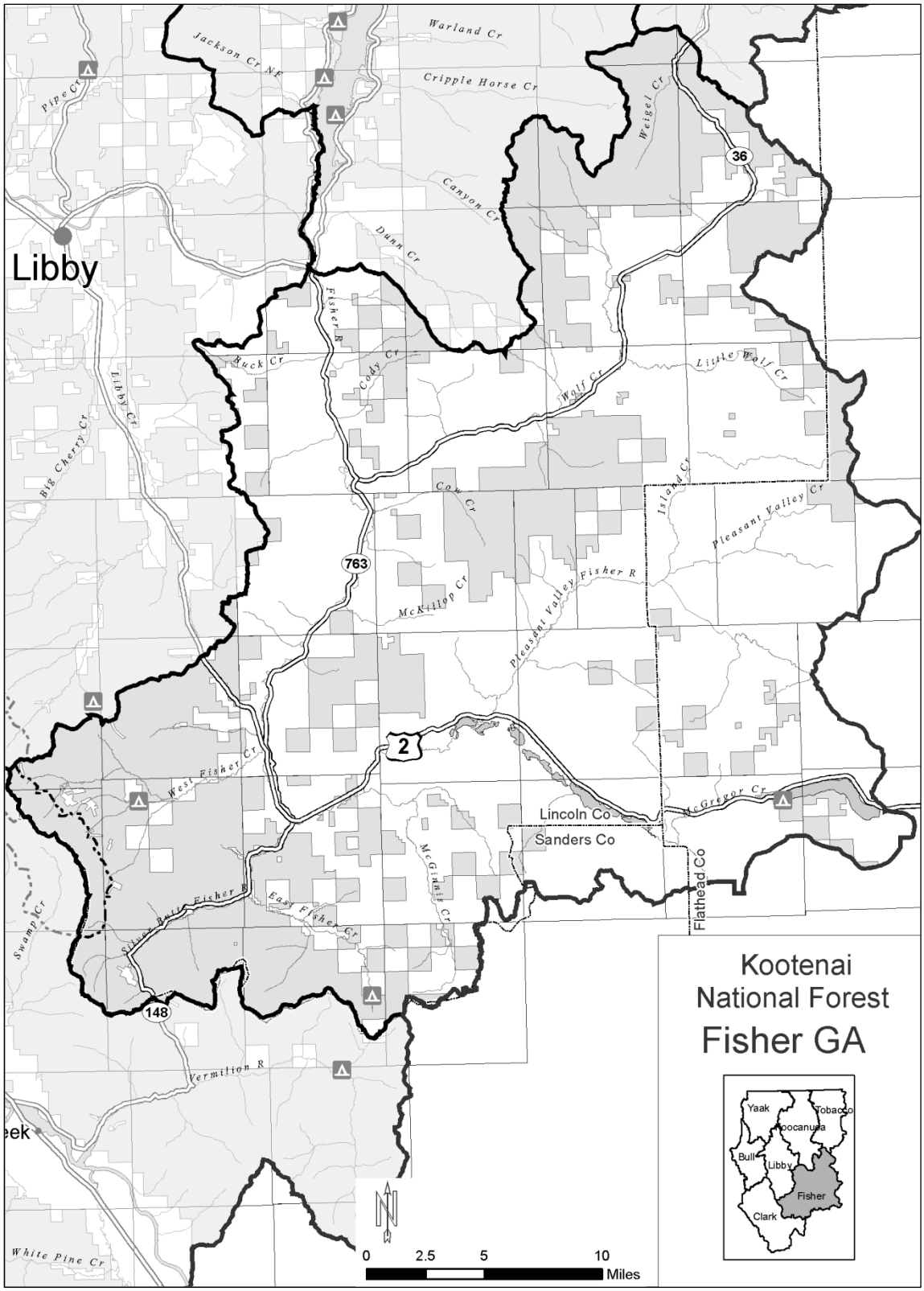


Figure 13. Fisher Geographic Area

Fisher Geographic Area

General Location and Description

The Fisher GA (figure 13) lies predominantly in Lincoln County, Montana, with portions in Flathead and Sanders Counties. Of the 579,000 acres within this GA, 206,320 acres (36 percent) are administered by the KNF. Over half of the land in this GA is corporate timberlands, some of which are in a "checkerboard" pattern with NFS land. Small communities in this GA include Happy's Inn, Pleasant Valley, and Silver Butte. As a result of large stand replacing fires in the late 1800s and 1910 and intermixed private ownership, late-successional stands are limited.

Desired Condition

Vegetation

GA-DC-VEG-FSH-01. Populations of new noxious weed species are treated promptly and eradicated. Established noxious weed infestations are reduced and habitat conditions are improved for native grasses, forbs, and shrubs. Private, county, state, and federal organizations work cooperatively to prevent, control, and manage noxious weed infestations. Weed infestations in areas of large scale natural disturbance such as; Houghton Creek, Wolf Mountain, Little Wolf, Elk Mountain, and key areas along the Cabinet Wilderness are reduced.

GA-DC-VEG-FSH-02. Whitebark pine structure, composition, and function trend toward the desired condition within appropriate high elevation areas.

Fire

GA-DC-FIRE-FSH-01. Threats of wildfire are reduced for dwellings, buildings, and structures within the Fisher River drainage and major tributaries.

Watersheds (Water, Soil, and Riparian Areas) and Aquatic Species

GA-DC-WTR-FSH-01. Recovering aquatic systems such as Fisher River are improved and support designated beneficial uses.

Wildlife

GA-DC-WL-FSH-01. NFS lands, in particular those lands in the Miller Creek, Fritz Mountain, Calx Mountain, and Syrup Redemption areas, provide for wildlife movement between the larger blocks of forested lands in these areas and for movement between the Cabinet Yaak and Northern Continental Divide ecosystems. This includes movement for big game between the Cabinet Mountains and Fisher River. Wildlife also moves between the Fisher River, Wolf Creek, and areas east of Koocanusa Reservoir, the Blue Mountain vicinity north of the Kootenai River, and north-south through the Cabinet Mountains.

GA-DC-WL-FSH-02. Habitat conditions for elk and mule deer are retained or enhanced in areas of intermixed ownership.

GA-DC-WL-FSH-03. Forage quality and quantity are improved on big game winter range as a result of restoration activities, such as reduction of noxious weeds.

Access and Recreation

GA-DC-AR-FSH-01. Outfitter and guide agreements and partnerships with Plum Creek Timber Company are maintained.

Management Area Composition

Table 17 displays the acres identified within each management area for the Fisher GA.

Table 17. Fisher GA Management Area Acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1a	Wilderness	5,570	2.7%
3	Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas	510	0.2%
4	Established or Proposed Research Natural Area	240	0.1%
5b	Backcountry - Motorized Year-round (Summer only on designated routes/areas)	44,050	21.4%
6	General Forest	155,950	75.6%
	Total NFS Lands	**206,320**	

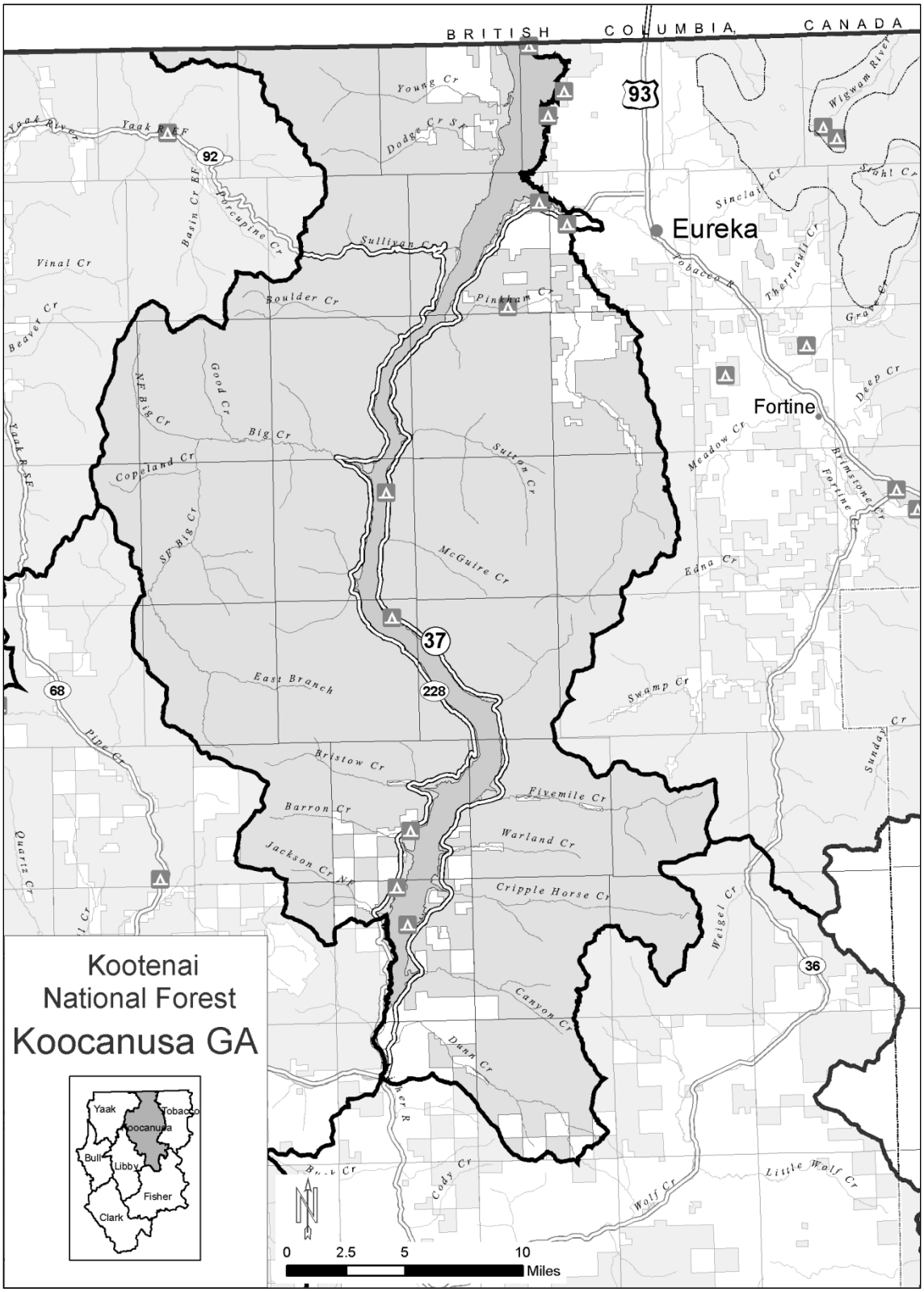


Figure 14. Koocanusa Geographic Area

Koocanusa Geographic Area

General Location and Description

The Koocanusa GA (figure 14) is located entirely within Lincoln County and is adjacent to British Columbia, Canada. Of the 475,000 acres within this GA, 410,940 acres (86 percent) are administered by the KNF. Communities include Rexford and West Kootenai, on either side of Lake Koocanusa, in the northern portion of the GA. This GA is culturally significant as human use dates back 8,000 years.

Desired Condition

Vegetation

GA-DC-VEG-KOO-01. Populations of new noxious weed species are treated promptly and eradicated. Established noxious weed infestations are reduced and habitat conditions are improved for native grasses, forbs, and shrubs. Private, county, state, and federal organizations work cooperatively to prevent, control, and manage noxious weed infestations. Noxious weed infestations are reduced in areas of large scale natural disturbance such as Dodge and Pinkham planning unit.

Fire

GA-DC-FIRE-KOO-01. Threats from unplanned ignitions are reduced for the towns of Rexford, West Kootenai, the Pinkham area, and outlying communities and structures.

Watersheds (Water, Soil, and Riparian Areas) and Aquatic Species

GA-DC-WTR-KOO-01. Watersheds continue to support populations of migratory native and desirable nonnative fishes.

Wildlife

GA-DC-WL-KOO-01. Habitat conditions for mule deer, bighorn sheep (Ural Tweed herd), and other big game are retained or enhanced throughout this GA.

GA-DC-WL-KOO-02. Wildlife move to and from Roderick Mountain to the west of this GA. Wildlife also move to and from the Canadian border and along the Big Creek and Parsnip Mountain vicinities to and from Lake Koocanusa. To the east of Lake Koocanusa, wildlife move between the lake and vicinities or Lydia Mountain, Pinkham Mountain, Warland Peaks, and east to Wolf and Sunday creeks.

GA-DC-WL-KOO-03. McGuire Mountain, Ten Mile, Gold Hill, and Webb Mountain provide low levels of disturbance.

GA-DC-WL-KOO-04. Forage quality and quantity on big game winter ranges are improved as a result of restoration activities, such as those that result in a reduction in noxious weeds.

Access and Recreation

GA-DC-AR-KOO-01. Recreation opportunities are maintained or improved in areas adjacent to Lake Koocanusa.

GA-DC-AR-KOO-02. A recreation plan for Lake Koocanusa is developed.

GA-DC-AR-KOO-03. Additional recreation opportunities for equestrians, mountain bikers, rock climbers, access to the lake, camping, and OHV users are provided.

Management Area Composition

Table 18 displays the acres identified within each MA for the Koocanusa GA.

Table 18. Koocanusa GA Management Area Acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
2	Eligible Wild and Scenic Rivers	9,580	2.3%
3	Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas	4,740	1.2%
4	Established or Proposed Research Natural Area	180	0.0%
5a	Backcountry - Non-motorized Year-round	6,100	1.5%
5c	Backcountry - Motorized Winter, Non-motorized Summer	14,040	3.4%
6	General Forest	366,010	89.1%
7	Primary Recreation Area	10,290	2.5%
	Total NFS Lands	**410,940**	

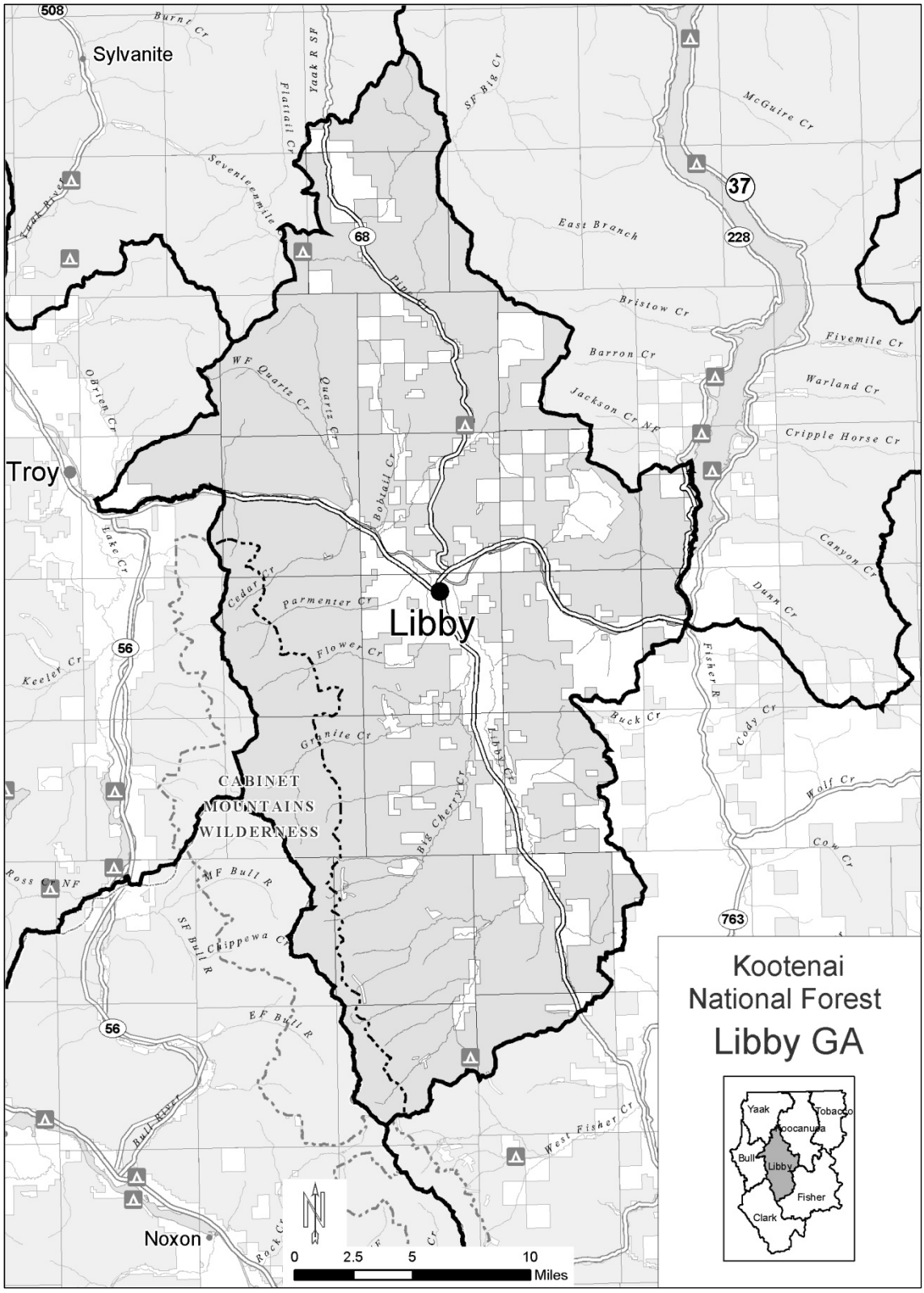


Figure 15. Libby Geographic Area

Libby Geographic Area

General Location and Description

The Libby GA (figure 15) lies entirely within Lincoln County. Of the 367,000 acres within this GA, 287,180 acres (78 percent) are administered by the KNF. Approximately 10,000 people live in the city of Libby and the residential areas nearby, roughly half the population in the county. The county seat and the administrative center for the KNF are located in Libby. This area has been continuously inhabited for 5,500 years and has provided major travel routes, including David Thompson's exploration in the early 1800s, Pierre deSmet in 1845, and gold miners in the 1860s. Mining and logging have historically provided the economic base. The area is known for its mineral deposits and progress is being made towards developing a large hard-rock underground mine in the upper Libby Creek area.

The Rainy Creek-Alexander area northeast of Libby surrounds the former vermiculite mine, which was in operation for close to 70 years and closed in 1990. In 2002, the mine and areas around Libby and Troy were placed on the EPA's National Priorities List for Superfund Sites. A portion of the land within the National Priorities List boundary is managed by the Forest Service. Further research and exploration, in conjunction with the EPA, regarding the extent of Libby amphibole asbestos contamination is continuing in this area and may affect future management options and public safety concerns.

EPA has designated the airshed that surrounds the community of Libby as a nonattainment area for exceeding the allowable air quality standards for fine particulate matter. To improve air quality, Lincoln County has established burning restrictions and this has limited the ability of the KNF to use planned ignitions in the area.

Desired Condition

Vegetation

GA-DC-VEG-LIB-01. The south-facing slopes adjacent to the Kootenai River provide habitat for concentrations of Geyer's Biscuitroot that have adapted to low-intensity, frequent fire disturbance.

GA-DC-VEG-LIB-02. Whitebark pine structure, composition, and function trend toward the desired vegetation condition within high elevation areas of the Cabinet Mountains, Quartz Mountain, and the Huson Peak area.

GA-DC-VEG-LIB-03. Populations of new noxious weed species are treated promptly and eradicated. Established noxious weed infestations are reduced and habitat conditions are improved for native grasses, forbs, and shrubs. Private, county, state, and federal organizations work cooperatively to prevent, control, and manage noxious weed infestations. Weed infestations on big game winter range and in the Cabinet Mountains Wilderness area are emphasized. Established rush skeltonweed sites in the Quartz Creek area are eradicated.

Fire

GA-DC-FIRE-LIB-01. Threats of wildfire are reduced for the city of Libby and outlying communities and structures.

GA-DC-FIRE-LIB-02. Wildfire within the National Priorities List boundary will be managed to limit firefighter and public exposure to Libby amphibole. The initial response to wildfires will be suppression.

Watersheds (Water, Soil, and Riparian Areas) and Aquatic Species

GA-DC-WTR-LIB-01. Recovering watersheds such as Quartz, Bobtail, Big Cherry, and Snowshoe are improved and support designated beneficial uses.

GA-DC-WTR-LIB-02. Source water protection is provided in the Flower Creek watershed for the town of Libby.

GA-DC-WTR-LIB-04. Bull trout populations increase and expand with strongholds in Quartz, Pipe, Big Cherry, and upper Libby Creeks. Populations of bull trout in adjoining drainages stabilize and begin to contribute to the middle Kootenai recovery population.

GA-DC-WTR-LIB-05. Populations of interior redband and westslope cutthroat are secure from hybridization by nonnative fishes and expand their distribution.

Wildlife

GA-DC-WL-LIB-01. Habitat conditions are retained for wildlife movement between the Cabinet Mountains and the Yaak, in particular, the area of Flagstaff Mountain. Habitat conditions for wildlife movement are also retained in the area between Turner Mountain and Alexander Creek (the Horse Range), including NFS lands in the Gold Hill and Blue Mountain areas. Wildlife move between the Blue Mountain vicinity, the Fisher River, and Koocanusa Reservoir areas.

GA-DC-WL-LIB-02. Habitat conditions and low levels of disturbance are provided for big game on key winter ranges in the Swede McMillan, Sheldon Mountain, and Horse Range areas. Undisturbed habitat conditions are retained in these areas during the spring, in particular, in those areas used for calving or fawning.

GA-DC-WL-LIB-03. Habitat conditions with low levels of disturbance are provided for big game on key summer ranges in the upper Bobtail, West Pipe, and East Fork Pipe Creek drainages and for bighorn sheep in the Kootenai Falls area.

GA-DC-WL-LIB-04. Wildlife move between the Cabinet Mountains and the Fisher River, as well as north-south through the Cabinet Mountains.

Access and Recreation

GA-DC-AR-LIB-01. Opportunities to utilize partnerships and user groups to evaluate, plan, and improve trail systems and other recreational developments are pursued and maintained (e.g., Lincoln County Snowkats, Cabinet Backcountry Horsemen, Kootenai Ridgeriders ATV Club, Kootenai Winter Sports, etc.).

GA-DC-AR-LIB-02. Opportunities for winter motorized access are maintained or considered in areas such as Pipe Creek, East Face of the Cabinets, and Bear Creek. Opportunities for changing snowmobile routes are considered as vegetation or other conditions change over time.

GA-DC-AR-LIB-03. An opportunity is provided for the assessment of a multiple-use trail (motorized and non-motorized) between Libby and Troy as well as a possible ski area on Treasure Mountain.

GA-DC-AR-LIB-04. Recreation opportunities may be limited in areas within the National Priorities List boundary. Ongoing risk assessments will determine how and when recreation may be limited.

Timber

GA-DC-TBR-LIB-01. Cutting of timber may be limited on lands within the National Priorities List boundary. Ongoing risk assessments will determine how and when harvest may occur in these areas.

Minerals

GA-DC-MIN-LIB-01. Interagency coordination and cooperation will continue to evaluate and manage risks associated with the Rainy Creek area and Libby amphibole asbestos exposure; land management activities will be designed to mitigate for these risks.

Management Area Composition

Table 19 displays the acres identified within each MA for the Libby GA.

Table 19. Libby GA Management Area Acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1a	Wilderness	33,420	11.6%
1b	Recommended Wilderness	16,300	5.7%
2	Eligible Wild and Scenic Rivers	3,090	1.1%
3	Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas	1,340	0.5%
4	Established or Proposed Research Natural Area	2,080	0.7%
5a	Backcountry - Non-motorized Year-round	11,970	4.2%
5b	Backcountry - Motorized Year-round (Summer only on designated routes/areas)	23,490	8.2%
5c	Backcountry - Motorized Winter, Non-motorized Summer	15,110	5.3%
6	General Forest	179,100	62.4%
7	Primary Recreation Area	1,280	0.4%
	Total NFS Lands	**287,180**	

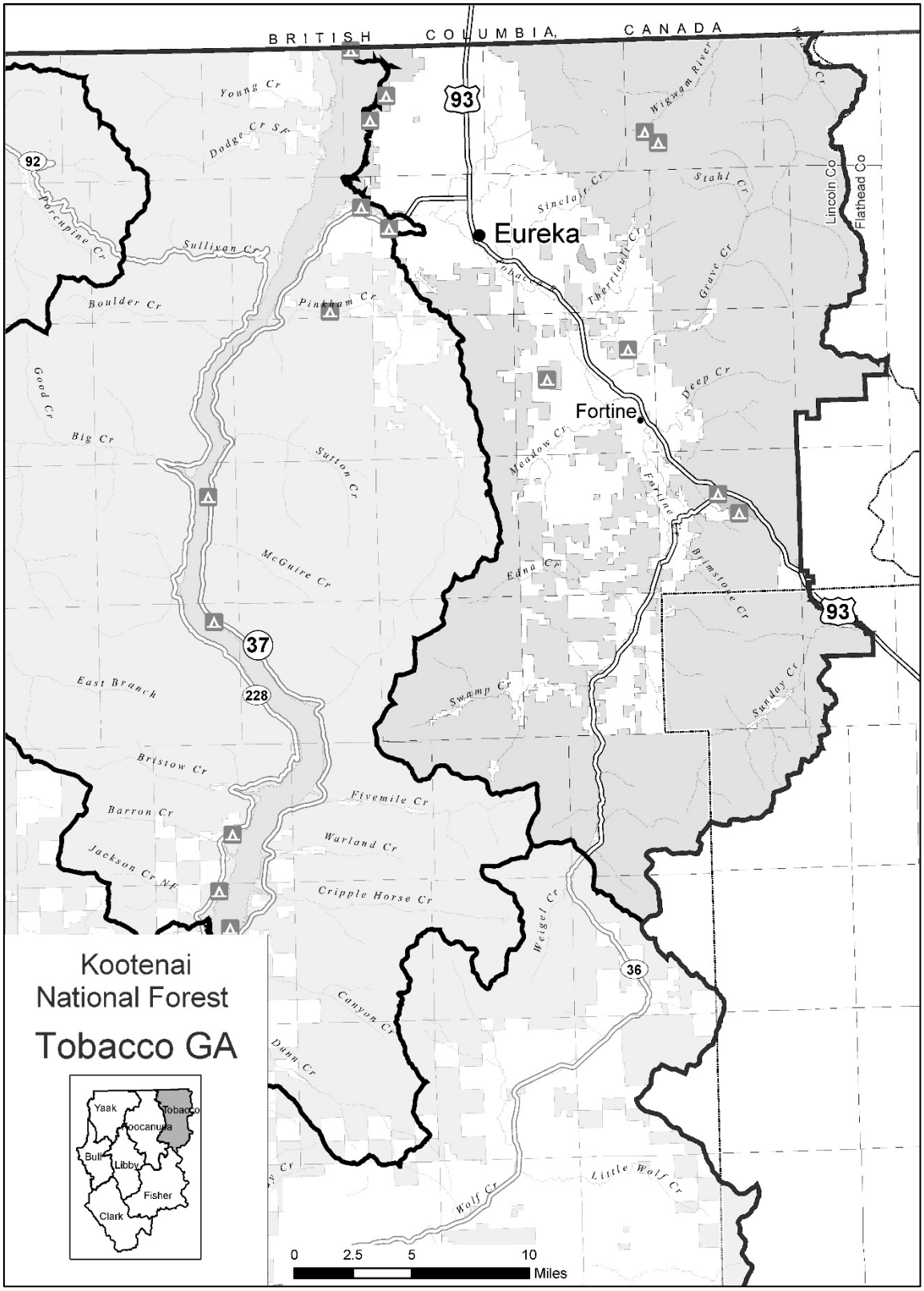


Figure 16. Tobacco Geographic Area

Tobacco Geographic Area

General Location and Description

The Tobacco GA (figure 16) lies predominantly in Lincoln County, Montana, with a portion in Flathead County and is adjacent to British Columbia, Canada. Of the 370,000 acres within this GA, 264,240 acres (71 percent) are administered by the KNF. Communities include Eureka, Fortine, Trego, and Stryker, Montana. This area contains the largest amount of grazing and ranching lands in the Forest. This area is culturally significant, with human use dating back at least 8,000 years.

Desired Condition

Vegetation

GA-DC-VEG-TOB-01. Whitebark pine structure, composition, and function trend toward the desired vegetation condition within appropriate high-elevation areas.

GA-DC-VEG-TOB-02. Noxious weed treatment occurs with cooperation from the state and county to improve habitat conditions for native grasses, forbs, and shrubs.

GA-DC-VEG-TOB-03. Management of vegetation towards the desired vegetation condition improves or possibly increases habitat for Spalding's catchfly. Calcareous soils and wetlands provide habitat for species such as lady's-slipper and cottongrass.

Fire

GA-DC-FIRE-TOB-01. Threats from unplanned ignitions are reduced for the towns of Eureka, Fortine, Trego, Stryker, and outlying communities and structures.

Watersheds (Water, Soil, and Riparian Areas) and Aquatic Species

GA-DC-WTR-TOB-01. Recovering systems such as the Tobacco River are improved and support designated beneficial uses.

GA-DC-WTR-TOB-02. Source water protection is provided for the Tobacco River and its tributaries (including Deep Creek) for the towns of Eureka, Fortine, and Trego.

GA-DC-WTR-TOB-03. Native aquatic species, particularly bull trout populations, expand into additional areas, and respond to restoration activities in the Grave Creek watershed.

Wildlife

GA-DC-WL-TOB-01. Low levels of human disturbance allows for denning activities of wide-ranging carnivores that are sensitive to human disturbance (e.g., grizzly bear), and for summer use by big game in the Ten Lakes, Thompson Seton, and Marston Face areas.

GA-DC-WL-TOB-02. Wildlife move between the large blocks of NFS lands across Highway 93 southeast of Murphy and Dickey Lakes. Wildlife also moves from the Lydia and Pinkham mountains vicinity and the Sunday Creek vicinity.

GA-DC-WL-TOB-03. In the Therriault and Krinklehorn BMUs the current levels of security core habitat, open motorized route densities, and total motorized route densities are also the desired condition.

GA-DC-WL-TOB-04. Habitat conditions for cover/forage and low levels of disturbance are maintained for big game on key low elevation winter ranges in the Murphy, Meadow, and Deep Divide areas. Cover/forage conditions may be improved through restoration activities such as vegetative treatments or reduction of noxious weeds.

GA-DC-WL-TOB-05. Wildlife move to and from the border with Canada.

GA-DC-WL-TOB-06. Habitat conditions for bighorn sheep (Ten Lakes herd) are retained or enhanced.

Access and Recreation

GA-DC-AR-TOB-01. Recreation opportunities are maintained or improved in the Ten Lakes area. An updated study for the Ten Lakes Wilderness Study Area is completed including the identification of specific areas and routes to provide a variety of winter and summer non-motorized and winter motorized recreation opportunities. Monitoring of use is an integral part of the recreation program for the Ten Lakes area.

GA-DC-AR-TOB-02. High-use recreation routes, such as Grave Creek Road, are maintained through dust abatement and grading.

Management Area Composition

Table 20 displays the acres identified within each MA for the Tobacco GA.

Table 20. Tobacco GA Management Area Acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1b	Recommended Wilderness	16,000	6.1%
1c	Wilderness Study Area	34,110	12.9%
2	Eligible Wild and Scenic Rivers	0	0.0%
3	Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas	3,470	1.3%
4	Established or Proposed Research Natural Area	410	0.2%
5a	Backcountry - Non-motorized Year-round	25,660	9.7%
5b	Backcountry - Motorized Year-round (Summer only on designated routes/areas)	25,430	9.6%
5c	Backcountry - Motorized Winter, Non-motorized Summer	0	0.0%
6	General Forest	157,790	59.7%
7	Primary Recreation Area	1.370	0.5%
	Total NFS Lands	**264,240**	

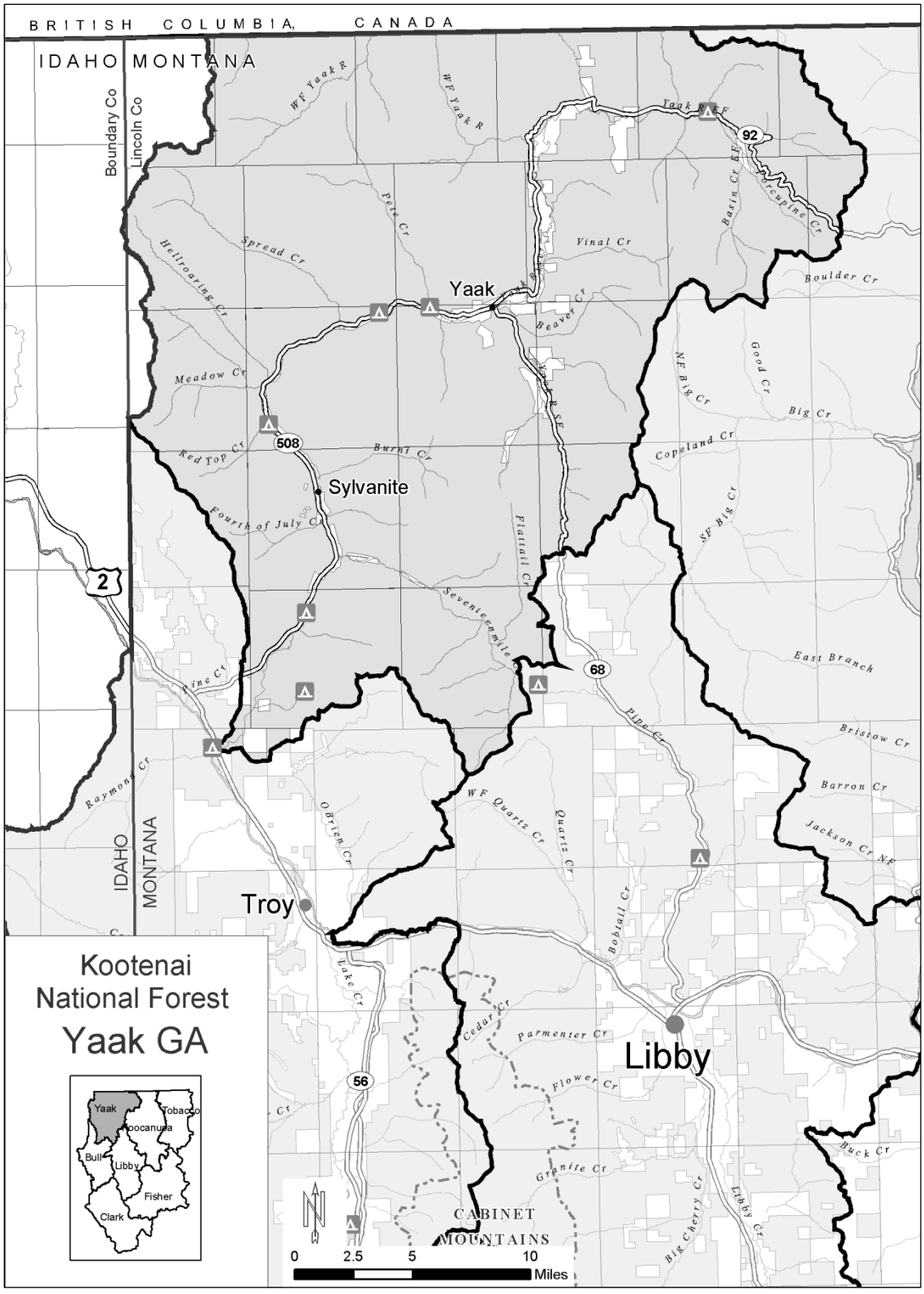


Figure 17. Yaak Geographic Area

Yaak Geographic Area

General Location and Description

The Yaak GA (figure 17) lies predominantly in Lincoln County, Montana, with a portion in Boundary County, Idaho, and borders British Columbia, Canada. Of the 398,000 acres within this GA, 384,500 acres (97 percent) are administered by the KNF. Communities include Yaak and Sylvanite, although residents are generally secluded and dispersed throughout the area. The area has been used for thousands of years and contains some of the oldest prehistoric sites on the KNF. A mining boom centered near Sylvanite ended when the area was burned out in the fire of 1910. The current vegetative composition and diversity are largely the result of wildfires, insect epidemics, and timber harvest during the past century.

Desired Condition

Vegetation

GA-DC-VEG-YAK-01. Management of vegetation toward the desired vegetation condition provides habitat for moonworts and northern beechfern and increases in late succession and/or old growth vegetation.

GA-DC-VEG-YAK-02. Whitebark pine structure, composition, and function trend toward the desired condition within appropriate high elevation areas.

GA-DC-VEG-YAK-03. Populations of new noxious weed species are treated promptly and eradicated. Established noxious weed infestations are reduced and habitat conditions are improved for native grasses, forbs, and shrubs. Private, county, state, and federal organizations work cooperatively to prevent, control, and manage noxious weed infestations.

Fire

GA-DC-FIRE-YAK-01. Threats of wildfire are reduced for the communities of Yaak, Sylvanite, and outlying communities and structures.

Watersheds (Water, Soil, and Riparian Areas) and Aquatic Species

GA-DC-WTR-YAK-01. Recovering watersheds such as North, East, South, and West Forks of the Yaak River; Seventeenmile, Lap, Spread, and Pete Creeks are improved and support designated beneficial uses.

Wildlife

GA-DC-WL-YAK-01. Wildlife moves along the ridgeline between the states of Montana and Idaho from Northwest Peaks south and across the Yaak River to areas such as Grizzly Peak and Roderick Mountain. Wildlife also moves to and from the border with Canada and from Roderick Mountain across Road #68 (Pipe Creek Road).

GA-DC-WL-YAK-02. Low levels of human disturbance allows for denning activities of wide-ranging carnivores that are sensitive to human disturbance (e.g., grizzly bear) in the Northwest Peaks, Grizzly Peak, and Roderick Mountain areas.

GA-DC-WL-YAK-03. Big game habitat is maintained or improved on winter ranges as a result of restoration activities that may include prescribed burning, weed control, precommercial thinning, etc. These activities trend habitat conditions towards the desired conditions listed under the “Forestwide Direction” section for Vegetation.

GA-DC-WL-YAK-04. Wildlife move between the Yaak and West Cabinets, particularly in the area around Yaak Mountain, Teepee Mountain, and the confluence of the Yaak and Kootenai Rivers. Wildlife also moves across the Yaak River and Highway 508 in the vicinity of Yaak Falls.

Access and Recreation

GA-DC-AR-YAK-01. Improvements are made to maintain or increase recreational opportunities. Historic structures are considered for restoration. Private funding and volunteer partnerships are pursued to accomplish these improvements for the Upper Ford and Sylvanite Ranger Stations, Garver, Mount Henry, Northwest Peak, Baldy Mountain, and Lost Horse Mountain Lookouts and other areas. Sylvanite Ranger Station, Lost Horse Mountain Lookout, and other areas are considered for addition into the cabin rental program.

Management Area Composition

Table 21 displays the acres identified within each MA for the Yaak GA.

Table 21. Yaak GA Management Area Acres

Management Area	Management Area Name	Acres	Percentage of GA Acres
1b	Recommended Wilderness	23,450	6.1%
2	Eligible Wild and Scenic Rivers	13,450	3.5%
3	Botanical, Geological, Historical, Recreational, Scenic, or Zoological Areas	14,710	3.8%
4	Established or Proposed Research Natural Area	1,270	0.3%
5a	Backcountry - Non-motorized Year-round	59,790	15.6%
5b	Backcountry - Motorized Year-round (Summer only on designated routes/areas)	280	0.1%
5c	Backcountry - Motorized Winter, Non-motorized Summer	24,200	6.3%
6	General Forest	247,320	64.3%
7	Primary Recreation Area	30	0.0%
	Total NFS Lands	**384,500**	

Chapter 5—KNF Monitoring Program (V2)

On June 23, 2016 an administrative change was made to the monitoring program to transition to the 2012 Planning Rule requirements (Administrative Change #1 to the 2015 Forest Plan). This version (V2) of the monitoring program reflects that change.

Monitoring provides the feedback for the forest planning cycle by testing assumptions, tracking relevant conditions over time, measuring management effectiveness, and evaluating effects of management practices. Monitoring information should enable the Forest to determine if a change in plan components or other plan management guidance may be needed, forming a basis for continual improvement and adaptive management. Direction for the monitoring and evaluation of forest plans is found under the 1982 Planning Rule at 36 CFR 219.12(k) and under the 2012 Planning Rule at 36 CFR 219.12.

The plan monitoring program addresses the most critical components for informed management of the Forest's resources within the financial and technical capability of the agency. Every monitoring question links to one or more goals, desired conditions, objectives, standards, or guidelines. However, not every plan component has a corresponding monitoring question.

This monitoring program is not intended to depict all monitoring, inventorying, and data gathering activities undertaken on the Forest; nor is it intended to limit monitoring to just the questions and indicators listed in table 22. Consideration and coordination with broad-scale monitoring strategies, multi-party monitoring collaboration, and cooperation with state agencies where practicable will increase efficiencies and help track changing conditions beyond the Forest boundaries to improve the effectiveness of the plan monitoring program. In addition, project and activity monitoring may be used to gather information for the plan monitoring program if it will provide relevant information to inform adaptive management.

The monitoring program sets out the plan monitoring questions and associated indicators. It is comprised of a monitoring guide and a biennial evaluation report.

- The monitoring guide provides detailed information on the monitoring questions, indicators, frequency and reliability, priority, data sources and storage, and cost.
- An interdisciplinary team will develop a biennial Monitoring Evaluation Report which will summarize the results of completed monitoring, evaluate the data, consider relevant information from broad-scale or other monitoring efforts, and make recommendations to the responsible official. The monitoring evaluation report will indicate whether or not a change to the Forest Plan, management activities, or the monitoring program, or a new assessment, may be warranted based on the new information. The monitoring evaluation report is used to inform adaptive management of the Plan area. The Monitoring Evaluation Report will be made available to the public.

Some kinds of monitoring indicators will require longer time frames for thorough evaluation of results, but a biennial review of what information has been collected will ensure timely evaluation to inform planning. The biennial monitoring evaluation does not need to evaluate all questions or indicators on a biennial basis but must focus on new data and results that provide new information regarding management effectiveness, progress towards meeting desired conditions or objectives, changing conditions, or validation (or invalidation) of assumptions.

Table 22 is the monitoring program. This table displays the monitoring questions, the reference to Forest Plan direction, the indicator(s) for answering the monitoring question, the frequency of measure, and the precision. Monitoring questions are used to evaluate whether management is moving toward, moving away from, or maintaining desired conditions. The references to forest plan direction provide a link between the monitoring question and the forest plan. The forest plan references may not include all relevant direction, but rather the primary direction that is addressed by the monitoring question. Indicators

are the specific resource measures used in answering the monitoring questions. Frequency of measure is the timeframe for collecting data on each indicator. Precision is defined as Class A or B. For Class A, mostly quantitative methods are widely accepted with repeatable results and statistical validity. Reliability, precision, and accuracy are very good. For Class B, mostly qualitative methods include project records, communications, or less formal measurements like walk-thru exams or informal visitor surveys. Reliability, accuracy, and precision are good, but usually less than Class A. The associated evaluation process determines if the observed changes are consistent with the Forest Plan and the effectiveness of implementation. Evaluation reports will be produced biennially (as per 2012 Rule, 36 CFR 219.12(d)). Not all questions or indicators will be reported in the biennial Monitoring Evaluation Report.

Table 22. Monitoring Program

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
Physical and Biological				
Vegetation	**MON-VEG-01:** To what extent are management activities and natural disturbance processes trending toward desired conditions for vegetation composition, structure, and pattern, increasing resistance and resiliency to disturbance factors including climate change? This includes vegetation dominance type and size, old growth, down wood, snags, fire-killed forest, and insect and disease infested forest.	GOAL-01 – ECO INTEGRITY and RESILIENCY, FW-DC-Veg-01, FW-DC-VEG-02, FW-DC-VEG-03, FW-DC-VEG-05, FW-DC-VEG-07, FW-DC-VEG-08, FW-OBJ-VEG-01, FW-STD-VEG-01, FW-GDL-VEG-01, FW-GDL-VEG-03, FW-GDL-VEG-04, FW-GDL-VEG-05, FW-GLD-VEG-06, FW-DC-WL-14, FW-DC-WL-13	**MON-VEG-01-01:** Acres treated to meet FW-OBJ-VEG-01 **MON-VEG-01-02:** Acres burned **MON-VEG-01-03:** Acres of forest by dominance type and size class compared to the desired condition **MON-VEG-01-04:** Acres meeting the old growth definition (see glossary) as determined by the FIA program **MON-VEG-01-05:** Acres of old growth and acres of recruitment potential old growth, as determined by the Forests' stand inventory and mapping procedures **MON-VEG-01-06:** Acres of old growth treated **MON-VEG-01-07:** Snags per acre forestwide **MON-VEG-01-08:** Number of acres influenced by insects and disease	**Annual/Class A** **Annual/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A** **Annual/Class A** **Annual/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A**
Vegetation	**MON-VEG-02:** Have management activities met Plan objectives and trended towards desired conditions for invasive terrestrial plant species?	FW-DC-VEG-10, FW-OBJ-VEG-02	**MON-VEG-02-01:** Acres of non-native invasive plants treated **MON-VEG-02-02:** Number of sites of new non-native invasive plant species and number of acres treated	**Annual/Class A** **Annual/Class A**
Fire	**MON-FIRE-01:** To what extent are management activities moving hazardous fuels towards desired conditions?	FW-DC-FIRE-02, FW-OBJ-FIRE-01, FW-DC-SES-04, GA-DC-FIRE-BUL-01, GA-DC-FIRE-CLK-01, GA-DC-FIRE-FSH-01, GA-DC-FIRE-KOO-01, GA-DC-FIRE-LIB-01, GA-DC-FIRE-TOB-01, GA-DC-FIRE-YAK-01	**MON-FIRE-01-01:** Acres of hazardous fuel treatments within the WUI, and in areas outside of the WUI	**Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
Fire	**MON-FIRE-02:** To what extent is unplanned fire used to trend vegetation towards desired conditions?	FW-DC-FIRE-03, FW-OBJ-FIRE-02	**MON-FIRE-02-01:** Number of unplanned natural fire ignitions managed for the maintenance and/or restoration of fire-adapted ecosystems, and the number of unplanned natural ignition managed with the primary goal of suppression	**Annual/Class A**
Watershed	**MON-WTR-01:** Are soil, water quality, and riparian and aquatic habitats protected and moving towards desired conditions?	FW-DC-WTR-02, FW-DC-WTR-04, FW-GDL-WTR-01, FW-GDL-WTR-03, FW-GDL-SOIL-05, FW-DC-RIP-03, and FW-DC-AQH-01	**MON-WTR-01-01:** Number of Best Management Practices (BMP) evaluations conducted and the percent of BMPS that were implemented correctly and the percent that were effective.	**Annual/Class A**
Watershed	**MON-WTR-02:** To what extent are management activities moving watersheds towards desired conditions?	FW-DC-WTR-01, FW-DC-WTR-02, FW-DC-WTR-03, FW-DC-WTR-04, FW-OBJ-WTR-01, FW-OBJ-WTR-02, FW-STD-WTR-01, FW-GDL-WTR-01	**MON-WTR-02-01:** Acres (or miles) of restoration activities accomplished by 6th code watershed and acres (or miles) accomplished in 303d/TMDL watersheds **MON-WTR-02-02:** Percent of subwatersheds trended towards an improved condition	**Annual/Class A** **Every 5 Years/Class A**
Aquatic Habitat	**MON-AQH-01:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired condition to reconnect fragmented stream habitat to increase population resilience to disturbance including climate change?	FW-DC-AQH-02, FW-DC-AQS-01, FW-DC-AQS-04, FW-DC-AQS-05, FW-OBJ-AQH-03	**MON-AQH-01-01:** Miles of reconnected stream habitat	**Annual/Class A**
Soils	**MON-SOIL-01:** To what extent has coarse woody debris been retained for long-term soil productivity and other ecosystem functions?	FW-DC-SOIL-01, FW-DC-SOIL-03, FW-DC-SOIL-04, FW-GDL-SOIL-02, FW-GDL-SOIL-03, FW-DC-VEG-08	**MON-SOIL-01-01:** Number of regeneration harvest units surveyed and percent meeting coarse woody debris criteria post- harvest	**Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
Soils	**MON-SOIL-02:** To what extent have vegetation management activities prevented irreversible damage to soil conditions?	FW-DC-SOIL-02, FW-DC-SOIL-03, FW-DC-SOIL-04; FW-DC-SOIL-05, FW-GDL-SOIL-01, FW-GDL-SOIL-04	**MON-SOIL-02-01:** Number of harvest units surveyed and percent that meet the Regional Soil Quality Standard, post-harvest (FSM, R1 Supplement No. 2500-99-1)	**Annual/Class A**
Riparian	**MON-RIP-01:** Have riparian and wetland areas been maintained or improved to provide for healthy streams and aquatic environments to increase resiliency to disturbance including climate change?	FW-OBJ-RIP-01	**MON-RIP-01-01:** Acres (or miles) of riparian habitat maintained or improved	**Annual/Class A**
Federally Listed Species	**MON-FLS-01:** To what extent is forest management contributing to the conservation of federally listed species and moving toward habitat objectives?	FW-DC-WL-03, FW-DC-WL-05, FW-STD-WL-01, FW-STD-WL-02, FW-STD-WL-03, FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-05, FW-DC-VEG-08, FW-DC-VEG-11, FW-OBJ-VEG-01, FW-GDL-VEG-03, FW-DC-FIRE-03	**MON-FLS-01-01:** Grizzly Bear: progress towards achieving and maintaining standards for percent core area, OMRD, and TMRD within the Recovery Zones (see monitoring requirements for the Grizzly Bear Access Amendment in appendix B) **MON-FLS-01-02:** Canada lynx: changes in lynx habitat as a result of moving towards the desired conditions for vegetation through vegetation management, prescribed fire, or natural disturbance (see monitoring requirements for the NRLMD in appendix B) **MON-FLS-01-03:** Bull Trout population trends based on redd counts in known spawning reaches	**Annual/Class A** **Annual/Class A** **Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
Focal Species	**MON-FOC-01:** Are habitat trends for the landbird assemblage and macroinvertebrate assemblage consistent with the objectives?	FW-OBJ-WL-03, FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-03, FW-DC-VEG-04, FW-DC-VEG-05, FW-DC-VEG-07, FW-DC-VEG-11, FW-OBJ-VEG-01, FW-STD-VEG-01, FW-GDL-VEG-01, FW-GDL-VEG-04, FW-GDL-VEG-05, FW-GDL-VEG-06, FW-DC-FIRE-03, FW-OBJ-AQH-02	**MON-FOC-01-01:** Landbird assemblage (insectivores): a) number of acres where planned ignitions were used to maintain/improve habitat; b) percentage of natural, unplanned ignitions managed for the maintenance or restoration or fire adapted ecosystems **MON-FOC-01-02:** Changes in KNF River Invertebrate Prediction and Classification System (Observed/Effect model) score	**Annual/Class A** **Every 5 Years/Class A**
Wildlife	**MON-WDL-01:** Have management activities met Plan objectives and maintained or improved habitat to achieve desired terrestrial habitat conditions?	FW-OBJ-WL-01 FW-DC-VEG-01, FW-DC-VEG-02, FW-DC-VEG-03, FW-DC-VEG-04, FW-DC-VEG-05, FW-DC-VEG-07, FW-DC-VEG-08, FW-DC-VEG-11, FW-OBJ-VEG-01, FW-STD-VEG-01, FW-GDL-VEG-01, FW-GDL-VEG-03, FW-GDL-VEG-04, FW-GDL-VEG-05, FW-GDL-VEG-06, FW-DC-FIRE-03	**MON-WDL-01-01:** Acres of terrestrial habitat restored or enhanced Also see results for **MON-VEG-01-01** through **MON-VEG-01-05, MON-VEG-02-02, MON-VEG-02-03**, and **MON-FIRE-02-02**	**Annual/Class A**
Wildlife	**MON-WDL-02:** Are habitat trends for elk consistent with the objectives?	FW-OBJ-WL-02, FW-GDL-WL-10	**MON-WDL-02-01:** Elk: number of planning subunits providing >30% security and >50% security on NFS lands during the hunting season	**Annual/Class A**
Human Uses and Designations of the Forest				
Access and Recreation	**MON-AR-01:** Have appropriate management actions been taken on recreation sites where opportunities have been identified, use is at or near capacity, or where there are resource concerns?	FW-DC-AR-01, FW-OBJ-AR-01, FW-OBJ-AR-02, MA6-DC-AR-01, MA7-DC-AR-01, MA7-DC-AR-5, GA-DC-AR-BULL-01, GA-DC-AR-CLK-01, GA-DC-AR-KOO-01, GA-DC-AR-LIB-01, GA-DC-AR-TOB-01, GA-DC-AR-YAK-01	**MON-AR-01-01:** Number and type of recreation sites **MON-AR-01-02:** Number of Persons at One Time (PAOT – capacity) **MON-AR-01-03:** Amount of deferred maintenance for developed recreation sites **MON-AR-01-04:** Number of recreation partnerships **MON-AR-01-05:** Changes in percent of Forest in each ROS setting	**Every 5 Years/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A** **Every 5 Years/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
Access and Recreation	**MON-AR-02:** Have management activities trended towards desired conditions for a minimum transportation system that provides recreation opportunities, safe and efficient public and agency access, and are environmentally compatible?	FW-DC-AR-03, FW-DC-AR-04, FW-DC-AR-05, FW-DC-AR-07, FW-OBJ-AR-03, MA6-DC-AR-03, GA-DC-AR-BUL-01, GA-DC-AR-TOB-03	**MON-AR-02-01:** Miles of road open year-long **MON-AR-02-02:** Miles of road open seasonally **MON-AR-02-03:** Miles of roads maintained by maintenance level **MON-AR-02-04:** Miles of roads decommissioned **MON-AR-02-05:** Miles of roads put into intermittent storage	**Annual/Class A** **Annual/Class A** **Annual/Class B** **Annual/Class A** **Annual/Class A**
Access and Recreation	**MON-AR-03:** To what extent are motorized and non-motorized winter and summer trail recreation opportunities available for a variety of users?	FW-DC-AR-03, FW-DC-AR-04, FW-DC-AR-05, FW-OBJ-AR-04, FW-OBJ-AR-05, MA5a/b/c-DC-AR-03, MA6-DC-AR-03, MA7-DC-AR-03, GA-DC-AR-BUL-01, GA-DC-AR-CLK-01, GA-DC-AR-KOO-04, GA-DC-AR-LIB-01, GA-DC-AR-LIB-03, GA-DC-AR-LIB-04	**MON-AR-03-01:** Acres open to over-snow vehicle use **MON-AR-03-02:** Miles of managed over-snow vehicle trails **MON-AR-03-03:** Miles of managed cross-country ski trails **MON-AR-03-04:** Miles of trail designated for motor vehicle use year-long or seasonally **MON-AR-03-05:** Miles of trails maintained for varied managed uses (e.g., hiker, equestrian, mountain biking, OHV, motorcycle)	**Annual/Class A** **Annual/Class A** **Annual/Class A** **Annual/Class A** **Annual/Class B**
Access and Recreation	**MON-AR-04:** What are the trends in visitation forestwide, and are visitors satisfied with the facilities, access, services, and perception of their safety?	FW-DC-AR-01, FW-DC-AR-04, MA6-DC-AR-01, MA7-DC-AR-01, MA7-DC-AR-05	**MON-AR-04-01:** Visitor use and trends in use forestwide **MON-AR-04-012:** Percent Satisfaction Index (National Visitor Use Monitoring) for developed facilities, access, services and perception of safety	**Every 5 Years/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
Wilderness	**MON-WLDN-01:** Have management activities met Forest Plan desired conditions and standards, and trended towards management area desired conditions for designated wilderness and Wilderness Study Areas?	MA1a-DC-AR-01, MA1a-DC-AR-04; FW-DC-AR-06	MON-WLDN-01-01: Designated Wilderness managed to standard MON-WLDN-01-02: Montana Wilderness Study Area wilderness character is not diminished beyond what existed in 1977	**Annual/Class A**
Cultural Resources	**MON-CR-01:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired condition to identify, evaluate, and nominate cultural resources for listing on the National Register of Historic Places?	FW-DC-CR-01, FW-OBJ-CR-01, FW-OBJ-CR-02	**MON-CR-01-01**: Number of properties identified **MON-CR-01-02:** Number of properties evaluated **MON-CR-01-03:** Number of properties nominated	**Annual/Class A** **Annual/Class A** **Annual/Class A**
Cultural Resources	**MON-CR-02:** To what extent are historic properties protected and public education and interpretation provided to move towards desired conditions?	FW-DC-CR-02	**MON-CR-02-01:** Number of properties protected/preserved **MON-CR-02-02:** Number of newly interpreted or updated historic properties	**Annual/Class A** **Every 5 Years/Class A**
American Indian Rights and Interests	**MON-AI-01:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired conditions for consultation with each Tribe?	FW-DC-AI-02, FW-OBJ-AI-03	**MON-AI-01-01:** Number of approved consultation protocols	**Annual/Class A**
American Indian Rights and Interests	**MON-AI-02:** To what extent has the agreement for access and acquisition of forest products for traditional cultural uses progressed in consultation with each Tribe?	FW-DC-A1-01, FW-OBJ-AI-01	**MON-AI-02-01:** Number of approved product use agreements	**Annual/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
American Indian Rights and Interests	**MON-AI-03:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired conditions for protecting traditional cultural areas?	FW-DC-AI-03, FW-OBJ-AI-02	**MON-AI-03-01:** Number of approved management plans for traditional cultural areas	**Annual/Class A**
Production of Natural Resources				
Timber	**MON-TBR-01:** To what extent is the Forest meeting Forest Plan objectives and trending towards desired conditions to provide a mix of timber products in response to market demands?	FW-DC-TBR-01, FW-OBJ-TBR-01	**MON-TBR-01-01:** MMBF offered and MMBF sold annually	**Annual/Class A**
Timber	**MON-TBR-02:** To what extent is the Forest meeting NFMA requirements and desired conditions on size of harvest openings?	FW-DC-VEG-05, FW-STD-TBR-02 (Also 1982 Rule requirement [219.12(k)(5)(iii)])	**MON-TBR-02-01:** Number of even-aged regeneration harvest units exceeding 40 acres in size and category for exceeding	**Annual/Class A**
Timber	**MON-TBR- 03:** To what extent are regeneration units restocked to trend towards vegetation desired conditions?	FW-DC-VEG-04, FW-DC-VEG-11, FW-DC-TBR-02, FW-DC-TBR-03, FW-STD-TBR-03 (Rule requirement [219.12(k)(5)(i)])	**MON-TBR- 03-01:** On lands suitable for timber production, percent of acres with regeneration harvest that are adequately restocked within 5 years of harvest	**Annual/Class A**
Minerals	**MON-MIN-01:** Are reclamation activities improving ecological and human health conditions?	FW-DC-MIN-01, FW-OBJ-MIN-01	**MON-MIN-01-01:** Number of reclaimed abandoned mine sites over a five-year period. Number reclaimed to reduce the risk to human health	**Every 5 Years/Class A**
Economic and Social Environment				
Social and Economic Systems	**MON-SOC-01:** To what extent is forest management contributing towards desired conditions for a stable and functioning local economy?	FW-DC-SES-02	**MON-SOC-01-01:** Number of jobs and thousands of dollars in labor income from KNF management and percent of total planning area1 jobs and income	**Every 5 Years/Class A**

Resource	Monitoring Question	Reference to Forest Plan Direction	Indicator	Frequency of Measure/Precision
Social and Economic Systems	**MON-SOC-02**: Is the cost of implementing the Forest Plan consistent with that predicted in the FEIS?	Rule requirement (219.12(k)(3))	**MON-SOC-02-01:** Forest annual budget	**Annual/Class A**

Glossary

303(d) Segments	A stream or other waterbody that is listed by the state as being "water quality impaired" by a pollutant in their current 303(d)/305(b) Integrated Report, pursuant to the Clean Water Act.
Activity Area	A land area affected by a management activity to which soil quality standards are applied. Activity areas include harvest units within timber sale areas, prescribed burn areas, recreation areas, and grazing areas or pastures within range allotments.
Adaptive Management	An approach to natural resource management where actions are designed and executed and effects are monitored for the purpose of learning and adjusting future management actions, which improves the efficiency and responsiveness of management.
Allotment Management Plan (AMP)	A document applying to management of rangeland ecosystems and livestock operations on the public lands prescribing: (1) the manner in and extent to which livestock operations will be conducted in order to meet ecosystem health, multiple use, economic, and other objectives; (2) describing range improvements to be installed and maintained; and (3) containing such other provisions relating to livestock grazing and other objectives found by the Secretary of Agriculture to be consistent with the provisions of Federal Land Policy and Management Act. An AMP integrates resource objectives, standards, guidelines, and management requirements for soil and water for watershed protection, wildlife and fisheries, recreation, timber, and other resources on lands within a range allotment.
Allowable Sale Quantity (ASQ)	The quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a time period specified by the Plan. This quantity is usually expressed on an annual basis as "the average annual allowable sale quantity."
Ancient Cedar Groves	Stands containing some cedar trees 60 inches or greater DBH and/or 500 years old. The density of 60 inches or greater DBH trees may be low and the distribution is often patchy, but these big (and/or old trees) can be found at least occasionally, scattered across the grove. Usually covers at least one-half acre in area, unless there is a concentration of 60 inches or greater DBH trees on a smaller area. In the same stand, there are often (but not always) additional unusually large (48 inches or greater DBH) trees.
Approach Areas	Areas on public lands, adjacent to wildlife crossings, that will be managed to facilitate animal movements.
Aquatic Ecosystem	Waters and wetlands of the United States that serve as habitat for interrelated and interacting communities and populations of plants and animals. The stream channel, lake or estuary bed, water, biotic communities, and the habitat features that occur therein.
Bear Year	The active bear year is from April 1 to November 30. (Spring (April 1 to June 15), summer (June 16 to September 15), fall (September 16 to November 30), winter (December to March 30)).

Bear Management Unit (BMU)	Areas established for use in grizzly bear analysis. BMUs generally a) approximate female home range size; and b) include representations of all available habitat components.
Beneficial Uses	Any of the various uses which may be made of the water, including, but not limited to, domestic water supplies, fisheries and other aquatic life, industrial water supplies, agricultural water supplies, navigation, recreation in and on the water, wildlife habitat, and aesthetics.
Best Management Practices (BMPs)	Practice or set of practices that enable a planned activity to occur while still protecting the resource managed, normally implemented and applied during the activity rather than after the activity.
Best Management Practices (BMPs) (Watershed)	A practice or a combination of practices, that is determined by the state (or designated area-wide planning agency) after problem assessment, examination of alternative practices, and appropriate public participation to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing, or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.
Big Game	Those species of large mammals normally managed as a sport hunting resource. Generally includes; elk, moose, white-tailed deer, mule deer, mountain goat, bighorn sheep, black bear, and mountain lion.
Biophysical Setting	An aggregation of vegetation response units, grouped by broad, climatic modifiers including temperature and moisture gradients.
Cavity	The hollow excavated in a tree that is used by birds or mammals for roosting and/or reproduction.
Coarse Woody Debris (CWD)	Coarse woody debris consists of dead woody material larger than 3 inches in diameter and derived from tree limbs, boles, and roots.
Composition (stand)	The proportion of each tree species in a stand expressed as a percentage of the total number, basal area, or volume of all tree species in the stand.
Connectivity	The arrangements of habitats that allows organisms and ecological processes to move across the landscape; patches of similar habitats are either close together or linked. The opposite of fragmentation.
Conservation Watersheds	Subwatersheds (6^{th} level HUC) that are considered to have excellent habitat, excellent water quality and strong populations of native fish species or all practical restoration opportunities have been completed. These areas are intended to protect stronghold populations of native salmonids and compliment restoration efforts. See also Priority Watersheds. Priority watersheds have been replaced by restoration watersheds for implementation of the revised Forest Plan. See also definition for Priority Watersheds appendix D of the final Forest Plan FEIS discusses the methodology for establishing Conservation Watersheds.

Corridors Avenues along which wide ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas.

Cultural Properties The definite location of a past human activity, occupation, or use identifiable through field inventory, historic documentation, or oral evidence. Cultural properties include prehistoric and historic archaeological remains, or architectural sites, structures, objects, or places with important public and scientific uses.

Decommission Demolition, dismantling, removal, obliteration and/or disposal of a deteriorated or otherwise unneeded asset or component, including necessary cleanup work. This action eliminates the deferred maintenance needs for the fixed asset.

Deferred Maintenance Maintenance that was not performed when it should have been or when it was scheduled, and therefore, was put off or delayed for a future period. When allowed to accumulate without limits or consideration of useful life, deferred maintenance leads to deterioration of performance, increased costs to repair, and decrease in asset value. Code compliance (e.g., life safety, ADA, OSHA, environmental, etc.), Forest Plan Direction, Best Management Practices, Biological Evaluations other regulatory or Executive Order compliance requirements, or applicable standards not met on schedule are considered deferred maintenance.

Depressed Native Fish Population Populations which have numbers that have been reduced or are declining or a major life-history component has been eliminated.

Designated Route A National Forest System road or a National Forest system trail on National Forest System lands that is designated for motor vehicle use pursuant to 36 CFR 212.51 on a motor vehicle use map.

Designated Utility Right-of-Way (ROW) Corridor A parcel of land with specific boundaries identified by law, Secretarial order, the land use planning process, or by some other management decision as being a preferred location for existing and future ROW facilities. The corridor may be suitable to accommodate more than one type of ROW use or facility or one or more ROW uses or facilities that are similar, identical, or compatible. A designated corridor may already be occupied by existing utility facilities. It has been adequately analyzed to provide for a high degree of assurance that in being identified as a "designated corridor," it can accommodate at least one new additional utility facility. (FSM 1905)

Detrimental Soil Disturbance The soils in an activity area are considered detrimentally disturbed at a given sample point when one or a combination of any of the attributes listed below is present due to past forest management activities:

a. Compaction: a 15 percent increase in natural bulk density. Soil compaction reduces the supply of air, water, and nutrients to plants. Roading, ground based yarding, dozer and grapple piling activities are the major contributors to compaction.
b. Soil ruts: Machine-generated soil displacement having smeared the soil

surface in a rut. Wheel ruts at least 2 inches deep in wet soils.

c. Displacement: Removal of one inch or more surface soil continuous area greater than 100 sq. feet which often consists of the O and A soil horizons. Displacement removes the most productive part of the soil resource. Temporary roads, skid trails, ground-based yarding, dozer piling and cable corridors are the major contributors to displacement.
d. Surface erosion: Indicated by rills, gullies, pedestals, and localized soil deposition.
e. Severely burned soils: Physical and biological changes to the soil resulting from high-intensity burns of long duration as described in the Burned Area Emergency Rehabilitation Handbook (FSH 2509.13).
f. Soil mass movement: Any soil mass movement caused by management activity.

Development Scale

The classification of the scale of development of recreation facilities with scales ranging from 0 to 5. Development scales are defined by levels of site modifications, type of construction material, management controls, design style, development density, services offered, and site modification allowed. Development scale 0-2 are considered dispersed sites and 3-5 are considered developed sites:

Development Scale 0: No Site Modification
Development Scale 1: Almost No Site Modification
Development Scale 2: Minimal Site Modification
Development Scale 3: Moderate Site Modification
Development Scale 4: Heavy Site Modification
Development Scale 5: Extensive Site Modification

Disturbance

A discrete event that changes existing plant community composition or structure, and interrupts, changes, or resets the ongoing successional sequence.

Or

Human presence, noise, or other activity that causes wildlife to move away from the area or alter behavior.

Dominance Group

Dominance group is determined by the following:

Single species – species that makes up at least 60 percent of the canopy cover or weighted basal area.

Species mix – No single species determination can be made. Type of mix, either tolerant or intolerant, is determined by what species combination makes up 80 percent of the canopy cover or weighted basal area, with each species contributing more than 20 percent to the total. Mixed species were combined with habitat types to derive a single species label.

Down Wood

Accumulation of woody material scattered on the forest floor that consists of two categories: coarse woody debris and fine woody debris.

Ecological Conditions	Components of the biological and physical environment that can affect diversity of plant and animal communities and the productive capacity of ecological systems. These components could include the abundance and distribution of aquatic and terrestrial habitats, roads and other structural developments, human uses, and invasive, exotic species.
Ecosystems	An interacting system of living organisms and their environment.
Ecological Integrity	The capacity to support and maintain a balanced, integrated, and adaptive biological system having the full range of elements and processes expected in a region's natural habitat. The ability to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat of the region. An ecosystem is said to have high integrity if its full complement of native species is present in normal distributions and abundances, and if normal dynamic functions are in place and working properly. In systems with integrity, the capacity for self-repair when perturbed is preserved, and minimal external support for management is needed.
Endangered Species	A plant or animal species listed under the Endangered Species Act that is in danger of extinction throughout all or a significant portion of its range.
Final Regeneration Harvest	Timber harvest designed to regenerate a timber stand or release a regenerated stand. This includes clearcut, removal cut of a shelterwood, or seed tree system, and selection cut.
Fine Woody Debris	Fine woody debris consists of downed dead branches, twigs, and small tree or shrub boles less than 3 inches not connected to a live tree or shrub. Fine woody debris interacts with the biotic components of soil and litter as storage sites for moisture, nutrients, and energy and is in various stages of decomposition.
Fire Behavior	The manner in which a fire reacts to the influences of fuel, weather, and topography.
Fire Hazard	A fuel complex defined by volume, type condition, arrangement, and location, which determines the degree of ease of ignition and of resistance to control.
Fire Intensity	A general term relating to the heat energy released by a fire.
Fire Management	Activities required for the protection of burnable wildland values from fire and the use of prescribed fire to meet land management objectives.
Fire Severity	The degree to which a site has been altered or disrupted by fire. A product of fire intensity, fuel consumption, and residence time.
Fire Suppression	An appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire. All wildland fire suppression activities provide for firefighter and public safety as the highest consideration, but minimize loss of resource values, economic expenditures, and/or the use of critical firefighting resources.

Forest Health	The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, and vigor, presence of unusual levels of insects and disease, and resilience to disturbance.
Fragmentation	A condition in which a continuous area is reduced and divided into smaller sections. Habitat can be fragmented by natural events or development activities.
Fuel Treatment	Any manipulation or removal of fuels to lessen potential damage and resistance to control (includes mechanical and planned ignitions treatments).
Grazing	The authorized use of standing vegetation on NFS lands for livestock production within permitted grazing allotments.
Grazing Allotments	Area designated for the use of a certain number and kind of livestock for a prescribed period of time.
Grizzly Bear Core Habitat	An area of secure habitat within a BMU that contains no motorized travel routes or high use non-motorized trails during the non-denning season and is more than 0.31 miles (500 meters) from a drivable road. Core areas do not include any gated roads but may contain roads that are impassible due to vegetation or constructed barriers. Core areas strive to contain the full range of seasonal habitats that are available in the BMU.
Grizzly Bear Recovery Zone	The area in each grizzly bear ecosystem within which the population and habitat criteria for achievement of recovery will be measured. **Cabinet/Yaak and North Continental Divide Ecosystem grizzly bear recovery zones:** These zones are two of six grizzly bear recovery zones identified in the Grizzly Bear Recovery Plan (USFWS 1993). Located in northwestern Montana and northern Idaho, the two ecosystems encompass 12,220 square miles of habitat. Portions of the Kootenai, Idaho Panhandle, Lolo, Flathead, Helena, and Lewis and Clark National Forests are included in the recovery areas. Additionally, some state, private, Bureau of Land Management, Glacier National Park, Flathead Indian Reservation, and Blackfeet Indian Reservation lands overlap the recovery zones.
Head Month (HM)	One month’s use and occupancy of the range by one animal. For grazing fee purposes, it is a month's use and occupancy of range by one weaned or adult cow with or without calf, bull, steer, heifer, horse, burro, or mule, or five sheep or goats.
Hibernacula	Habitat niches where certain animals (e.g., bats) overwinter, such as caves, mines, tree hollows, or loose bark.
Hydrologic Unit (HU)	A hydrologic unit is a drainage area delineated to nest in a multi-level, hierarchical drainage system. Its boundaries are defined by hydrographic and topographic criteria that delineate an area of land upstream from a specific point on a river, stream, or similar surface waters. A hydrologic unit can accept surface water directly from upstream drainage areas, and indirectly from associated surface areas such as remnant, non-contributing, and diversions to form a drainage area with single or multiple outlet points. Hydrologic units are only synonymous with classic watersheds when their boundaries include all the

	source area contributing surface water to a single defined outlet point."
Hydrologic Unit Code (HUC)	The numeric identifier of a specific hydrologic unit consisting of a 2-digit sequence for each specific level within the delineation hierarchy. **4th code** refers to the 4th pair of an 8-digit code of a subbasin HU that is generally 450,000 acres in size. **5th code** refers to the 5th pair of a 10-digit code of a watershed HU that generally ranges from 40,000 to 250,000 acres in size. **6th code** refers to the 6th pair of a 10-digit code of a subwatershed HU that generally ranges from 10,000 to 40,000 acres in size.
Hydrological stability	Condition where the potential for road failure and sedimentation is expected to be reduced.
Instream Flows	Streamflow regime required to satisfy a mixture of conjunctive demands being placed on water while it is in the stream.
Integrated Pest Management	A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed.
Intermittent Stored Service	An existing road where future use is expected but not known and is currently closed to vehicle traffic. The road is in a condition that there is little resource risk if maintenance is not performed.
Invasive Species	Executive Order 13112 defines an invasive species as “an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” The Forest Service relies on Executive Order 13112 to provide the basis for labeling certain organisms as invasive. Based on this definition, the labeling of a species as “invasive” requires closely examining both the origin and effects of the species. The key is that the species must cause, or be likely to cause, harm and be exotic to the ecosystem it has infested before we can consider labeling it as “invasive”. Thus, native pests are not considered “invasive”, even though they may cause harm. Invasive species infest both aquatic and terrestrial areas and can be identified within any of the following four taxonomic categories: Plants, Vertebrates, Invertebrates, and Pathogens.
Inventoried Roadless Area	**For National Forest System lands in Montana**, inventoried roadless areas are those areas mapped under the 2001 Roadless Area Conservation Rule (36 CFR 294 Subpart B, 66 Fed Reg. 3244-3273). These areas are identified in appendix C of the FEIS for the revised Forest Plan. The official set of maps is maintained at the national headquarters office of the Forest Service. **For National Forest System lands in Idaho**, inventoried roadless areas are those areas designated as Idaho Roadless Areas pursuant to 36 CFR §294 Subpart C. These areas are identified in a set of maps maintained at the national headquarters office of the Forest Service.
Landbird Assemblage	A group of species having similar ecological resource requirements and foraging strategies, and therefore, having similar roles in the community.

Lands Suitable for Timber Production Lands determined to be suitable for timber production. See the definition of timber production. These lands were identified as part of the forest planning process. See the FEIS chapter 3 "Timber" for a description of the process used in determining suitability. These lands are mapped and reside as spatial data in the Forest library.

Large Woody Debris Large pieces of relatively stable woody material located within the bankfull channel and appearing to influence bankfull flows. These are categorized as singles, aggregates, or rootwads.

Single – A single piece that has a length equal to or greater than 3 meters or two-thirds of the wetted stream width and 10 cm in diameter one-third of the way from the base.

Aggregate – Two or more clumped pieces, each of which qualifies as a single piece.

Rootwad – Rootmass or boles attached to a log less than 3 meters in length.

Linkage Areas The area between larger blocks of habitat where animals can live at certain seasons and where they can find the security they need to successfully move between these larger habitat blocks.

Long-term Sustained Yield Capacity (LTSYC) The highest uniform wood yield from lands being managed for timber production that may be sustained under specified management intensities consistent with multiple-use objectives.

Lynx Analysis Units (LAU) An area of at least the size used by an individual lynx, from about 25 to 50 square miles. A project analysis unit upon which direct, indirect, and cumulative effects analyses are performed.

Maintenance The upkeep of the entire forest development transportation facility including surface and shoulders, parking and side areas, structures, and such traffic-control devices as are necessary for its safe and efficient utilization.

Management Activity Any activity that is carried out or authorized by the Forest that would result in impacts on natural resources or change human use of the Forest.

Mechanized Wheeled forms of transportation including non-motorized carts, wheelbarrows, bicycles, and any other non-motorized, wheeled vehicles.

Minerals-Locatable Those hardrock minerals that are mined and processed for the recovery of metals. They also may include certain nonmetallic minerals and uncommon varieties of mineral materials, such as valuable and distinctive deposits of limestone or silica.

Minerals-Leasable Coal, oil, gas, phosphate, sodium, potassium, oil shale, sulphur, and geothermal resources.

Minerals- Materials (Salable) A collective term to describe common varieties of sand, gravel, stone, pumice, pumicite, cinders, clay, and other similar materials. Common varieties do not include deposits of those materials that may be locatable.

Minimum Impact Suppression Tactics (MIST)

The concept of Minimum Impact Suppression Tactics is to use the minimum amount of forces necessary to effectively achieve fire management protection objectives. It implies a greater sensitivity to the impacts of suppression tactics and their long-term effects, when determining how to implement an appropriate suppression response. Fire managers and firefighters select tactics that have minimal impact to values at risk. These values are identified in approved Land or Resource Management Plans. Standards and guidelines are then tied to implementation practices which result from approved Fire Management Plans. Minimum Impact Suppression Tactics is not intended to represent a separate or distinct classification of firefighting tactics but rather a mindset of how to suppress a wildfire while minimizing the long-term effects of the suppression action on other resources. The principle of fighting fire aggressively but providing for safety first will not be compromised in the process and when selecting an appropriate suppression response, firefighter safety must remain the highest concern.

Examples of Minimum Impact Suppression Tactics might include; "Personnel should avoid using rehabilitated fire lines as travel corridors whenever possible because of potential soil compaction and possible detrimental impacts to rehab work," or "avoid use of non-native materials for sediment traps in streams."

Mitigation

Measures implemented to minimize, reduce, rectify, avoid, eliminate, and/or compensate the potential impacts to resources identified in the effects analysis.

Motorized Equipment

Any machine activated by a nonliving power source except small battery-powered hand carried devices such as flashlights, GPS, cameras, or cell phones (36 CFR 261.2). Examples include: chain saw or generator.

Motor Vehicle

Any vehicle which is self-propelled, other than: (1) A vehicle operated on rails; and (2) Any wheelchair or mobility device, including one that is battery-powered, that is designed solely for use by a mobility- impaired person for locomotion, and that is suitable for use in an indoor pedestrian area. (36 CFR 212.1)

Motor Vehicle Use Map (MVUM)

A map reflecting designated roads, trails, and areas on an administrative unit or a ranger district of the National Forest System. (36 CFR 212.1)

Municipal Supply Watersheds (public supply watersheds)

A watershed that serves a public water system as defined in Public Law 93-523 (Safe Drinking Water Act); or as defined in state safe drinking water regulations. The definition does not include communities served by a well or confined groundwater unaffected by Forest Service activities.

National Register of Historic Places

The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the National Park Service, which is part of the U.S. Department of Interior.

Native Species Animals or plants that have historically occupied a given aquatic or terrestrial area.

Non-Game Those species of animals that are not managed as a sport hunting resource.

Noxious Weeds Any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment. The term typically describes species of plants that have been determined to be undesirable or injurious in some capacity. Federal noxious weeds are regulated by USDA-Animal and Plant Health Inspection Service under the Plant Protection Act of 2000, which superseded the Federal Noxious Weed Act of 1974. State statues for noxious weeds vary widely, with some States lacking any laws defining or regulating noxious weeds. Depending on the individual State law, some plants listed by a State statute as "noxious" may be native plants which that State has determined to be undesirable. When the species are native, they are not considered invasive species by the Federal Government. However, in most cases, State noxious weed lists include only exotic (non-native) species.

Nutrient Limited Rock Types Geologies (e.g., quartzites, dolomites, mafic sills) that is naturally deficient in chemical elements necessary for long-term site productivity.

Off-Highway Vehicle (OHV) Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain.

Old Growth Old growth stands are defined as those that meet the definitions in Green et al. 1992 (errata corrected 12/11). Those definitions include the discussion in that document titled "USE OF OLD GROWTH TYPE DESCRIPTIONS" (see pages 11 and 12). If that document is revised or replaced by the Northern Region, the updated version will be used.

Open Motorized Route Density (OMRD) Calculation made with the moving windows technique that includes open roads, other roads not meeting all restricted or obliterated criteria, and open motorized trails. The percent of the analysis area in relevant route density classes are calculated.

Openings Meadows, clearcuts, and other areas of vegetation that do not provide cover.

Operational Maintenance Level (roads) Defines the level of service provided by, and maintenance required for, a specific road, consistent with road management objectives and maintenance criteria. The maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns. The objective maintenance level may be the same as, or higher or lower than, the operational maintenance level.

Maintenance Level 1: Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent

resource to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are “prohibit” and “eliminate.” Roads receiving level 1 maintenance may be of any type, class or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic, but may be open and suitable for non-motorized uses.

Maintenance Level 2: Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either (1) discourage or prohibit passenger cars or (2) accept or discourage high clearance vehicles.

Maintenance Level 3: Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either “encourage” or “accept.” “Discourage” or “prohibit” strategies may be employed for certain classes of vehicles or users.

Maintenance Level 4: Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is “encourage.” However, the “prohibit” strategy may apply to specific classes of vehicles or users at certain times.

Maintenance Level 5: Assigned to roads that provide a high degree of user comfort and convenience. Normally, roads are double-lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is “encourage.”

Outstandingly Remarkable Value (WSRs) A river-related value that is a rare, unique, or exemplary feature that is significant at a comparative regional or national scale.

Over-Snow Vehicle A motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow.

Patch An area of vegetation that is relatively homogeneous that differs from surrounding vegetation.

Pattern Number, frequency, size, and juxtaposition of landscape elements (stands and patches) that are important to the determination or interpretation of ecological processes.

Peat Organic matter (the dead remains of plants) deposited under water-soaked conditions as a result of incomplete decomposition. Peat accumulates when the rate of deposition of dead plant matter (usually sedges or sphagnum mosses) exceeds the rate of decomposition.

Peatlands Any waterlogged area containing an accumulation of peat 30cm or more thick. Any type of peat-covered terrain, including bogs, fens, and muskegs. Once peat has developed to this depth, the availability of oxygen and nutrients essential to plant growth drops sharply, and plant roots must obtain their mineral nutrients from the saturated, oxygen-poor peat. Because nutrient cycling is limited, peatlands depend on external supplies of nutrients from either the atmosphere or inflowing, mineral-enriched water.

Plan Area The National Forest System lands covered by a plan.

Population (Ecological) Organisms of the same species that occur in a particular place at a given time.

Planned Ignitions A fire intentionally ignited by management under an approved plan to meet specific objectives.

Planning Subunit Mapped areas, generally following grouped 6th code watersheds, used for project-level NEPA and forest plan implementation. These areas are typically 30,000–60,000 acres, with some areas smaller and some larger.

Priority Watersheds Subwatersheds (6^{th} level hydrologic units) as described in INFS (USDA Forest Service 1998), which are intended to provide a pattern of protection across the landscape, where habitat for inland native fish would receive special attention and treatment and would have the highest priority for restoration, monitoring and watershed analysis. Priority watersheds have been further refined by Conservation Subwatersheds and Restoration Subwatersheds for implementation of the Forest Plan.

Project Area The NFS lands covered by a project.

Public Water System A public water system (PWS) is a system for the provision of water to the public for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year. A public water system can be one of three types:

Community Water System: Serves at least 15 service connections or 25 people year round in their primary residences (e.g., most cities and towns, apartments, and mobile home parks with their own water supplies).

Non-transient Non-community Water System (NTNCWS): Serves at least 25 of the same persons over six months per year (e.g., schools, churches, nursing homes, factories, and hospitals that have their own water source).

Transient Non-community Water System (TNCWS): Serves an average of at least 25 persons (but not the same 25) less than six months per year (e.g., campgrounds or highway rest stops that have their own water source).

Reclamation	Those actions performed during or after mineral activities to shape, stabilize, revegetate, or otherwise treat the affected lands in order to achieve a safe and ecologically stable condition and land use that is consistent with long-term forest land and resource management plans and local environmental conditions.
Recreation Opportunity Spectrum (ROS)	A framework of land delineations that identifies a variety of recreation experience opportunities categorized into classes on a continuum. The Spectrum's continuum has been divided into six major classes for Forest Service use: Urban (U), Rural (R), Roaded Natural (RN), Semi-primitive Motorized (SPM), Semi-Primitive Non-Motorized (SPNM), and Primitive (P).
Recreation sites	Specific places in the Forest other than roads and trails that are used for recreational activities. These sites include a wide range of recreational activities and associated development. These sites include highly developed facilities like ski areas, resorts, and campgrounds. It also includes dispersed recreation sites that have few or no improvements but show the effects of repeated recreational use.
Recruitment Potential Old Growth	Forest stands that do not meet the definition of old growth in Green et al. 1992 (errata corrected 12/11) but are being managed with the goal of meeting that definition in the future.
Resilience	The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change.
Resistance	The ability of an organism, population, community, or ecosystem to withstand perturbations without significant loss of structure or function. From a management perspective, resistance includes both 1) the concept of taking advantage of and boosting the inherent (biological) degree to which species are able to resist change, and 2) manipulation of the physical environment to counteract and resist physical and biological change.
Restoration	Restoration is the process of assisting the recovery of resilience and the capacity of a system to adapt to changes if the environment where the system exists has been degraded, damaged, or destroyed. Ecological restoration focuses on reestablishing ecosystem functions by modifying or managing the composition, structural arrangement, and processes necessary to make a terrestrial and aquatic ecosystem sustainable and resilient under current and future conditions.
Restoration Watersheds	Restoration watersheds are subwatersheds with a condition rating of 'Moderate" or "High" and have depressed populations of bull trout, westslope cutthroat trout, interior redband trout, or a combination of the three species. These subwatersheds are a priority for restoration, as they may have degraded habitat conditions, water quality limitations, depressed populations of native fish species, or a combination of the above, but have a high potential improvement through active or passive restoration efforts. Priority watersheds have been replaced by restoration watersheds for implementation of the Forest Plan. See also definition for Priority Watersheds. Appendix D of the Forest Plan FEIS discusses the methodology for establishing Restoration Watersheds.

Right-of-Way (ROW) Public or National Forest System lands authorized to be used or occupied pursuant to a ROW grant or special use authorization.

Riparian Habitat Conservation Areas (RHCAs) Portions of watersheds where riparian-dependent resources receive primary emphasis and management activities are subject to specific guidelines. The followings RHCA widths are based on the best available science and apply to all aquatic habitats, except where site-specific analysis supports modification:

Category 1 – Fish-bearing streams: RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of the riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet, including both sides of the stream channel), whichever is greater.

Category 2 – Permanently flowing non-fish bearing streams: RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of the riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet, including both sides of the stream channel), whichever is greater.

Category 3 – Ponds, lakes, reservoirs, and wetlands greater than one acre: RHCAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or to the extent of moderately and highly unstable areas, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond, or lake, whichever is greater.

Category 4 – Seasonally flowing or intermittent streams, wetlands less than one acre: This category includes features with high variability in size and site-specific characteristics. At a minimum, the RHCAs in priority watersheds must include the area from the edges of the stream channel or wetland, to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greater. The definition for this category has been slightly adjusted from INFISH, using a buffer of 100 feet for both priority and non-priority watersheds.

Risk A combination of 1) the likelihood that a negative outcome will occur and 2) the severity of the subsequent negative consequences.

Risk Factors Land-use disturbances that are negatively affecting watershed functions and processes and stream-riparian environments.

Road A motor vehicle route over 50 inches wide, unless identified and managed as a trail.

Road Construction FSM 7705 defines road construction or reconstruction together as the supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road (36 CFR 212.1).

Roadless Area See Inventoried Roadless Area

Road Maintenance The objective of road maintenance is to provide for safe and efficient travel; access for administration, utilization and protection of NFS lands; and protection of the environment, adjacent resources, and public investment (FSM 7730.2).

The term road maintenance is defined at FSM 7705 as the "ongoing upkeep of a road necessary to maintain or restore the road in accordance with its road management objectives (FSM 7714)."

FSH 7709.59 62.1 describes the scope of road maintenance to "include any expenditure in the repair or upkeep of a road necessary to perpetuate the road and provide for its safe use. Work items may include surface rock replacement, seal coats and asphalt overlays, bridge replacement, slide removal, and other items that contribute to the preservation of the existing road. Road maintenance is not intended to substantially improve conditions above those originally constructed; however, there may be a need for adding to or modifying the original conditions without increasing the service provided. Typical examples of this include installing additional minor culverts and traffic control devices, implementing traffic management strategies, placing small quantities of spot surfacing, and revegetating cut and fill slopes."

Road Reconstruction FSM 7705 defines road construction or reconstruction together as the supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road (36 CFR 212.1).
In practical terms, road reconstruction is conducted when the required work items to maintain or restore a road to its RMOs exceed what is expected during routine road maintenance. Additionally, work performed to upgrade the road's service level above that for which it was originally constructed, to accommodate commercial haul or meet the needs of additional traffic, to realign an existing road for water quality protection, or to repair a road after natural disaster would be considered reconstruction.

Salvage Cutting (or Salvage Logging) The removal of dead trees or trees being damaged or dying due to injurious agents other than competition, to recover value that would otherwise be lost.

Scenic Integrity Objective The Scenic Integrity Objectives (SIOs) serve as the desired conditions for the scenic resources and represent the degree of intactness of positive landscape attributes. SIOs are categorized into 5 levels. The highest scenic integrity ratings are given to those landscapes where valued landscape attributes will appear complete with little or no visible deviations evident. Lowers SIOs are given to those landscapes where modifications to the landscape will be more evident. Each of the SIOs is defined as follows:

Very High – Landscape is intact with changes resulting primarily through natural processes and disturbance regimes.

High – Management activities are unnoticed and the landscape character appears unaltered.

Moderate – Management activities are noticeable but are subordinate to the landscape character. The landscape appears slightly altered.

Low – Management activities are evident and sometimes dominate the landscape but are designed to blend with surroundings by repeating line, form, color, and texture of valued landscape character attributes. The landscape appears altered.

Very Low (not used in this final Plan) – Human activities of vegetative and landform alterations may dominate the original, natural landscape character but should appear as natural occurrences when viewed at back-ground distances.

Security Habitat An area with low levels of human disturbance. This general definition covers most uses of the term security habitat, except for elk, which has a specific definition.

Security Habitat (elk) Generally timbered stands on NFS lands at least 250 acres in size greater than 0.5 mile away from open motorized routes during the hunting season. Security is calculated for individual planning subunits. Roads not open to the public for motorized use during the hunting season are not included in this calculation. The effects of non-motorized use and/or administrative motorized use of closed or temporary roads during the hunting season are not included in this calculation and would instead be analyzed separately at the project level.

Self-sustaining Populations Populations that is sufficiently abundant, interacting, and well-distributed in the Plan area, within the bounds of their life history and distribution of the species and the capability of the landscape, to provide for their long-term persistence, resilience, and adaptability over multiple generations.

Sensitive Species The Forest Service Manual (2670.5) defines Sensitive Species as "those plant and animal species identified by a regional forester for which population viability is a concern as evidenced by significant current or predicted downward trend in numbers or density" and "habitat capability that would reduce a species' existing distribution."

Silvicultural Practices Activities that control the establishment, composition, structure, and function of forested ecosystems.

Silvicultural Prescription A silvicultural prescription is a written document that describes in detail the management activities needed to implement a silvicultural treatment or treatment sequence. The prescription is based on an examination of the stand being proposed for management. The prescription documents the results of an analysis of present and anticipated future stand conditions and evaluates this in terms of management direction. It also describes the desired future vegetation conditions in measurable terms.

Silvicultural Systems A planned series of treatments for tending, harvesting, and re-establishing a stand (e.g., even-aged, uneven-aged, two-aged, coppice).

Size Class Size class is based on basal area weighted diameter of the plot/stand. Weighted diameter is calculated then classification is made as follows according to weighted diameter:

Seedling/sapling: 0.0 – 4.9 inch DBH (if basal area weighted diameter is

	0.0, must have 100 or more trees per acre) **Small:** 5.0 – 9.9 inch **Medium:** 10.0 – 14.9 inch **Large:** 15.0 +
Snag	A standing dead tree usually greater than five feet in height and six inches in diameter at breast height (DBH).
Soil Productivity	The inherent capacity of a soil to support the growth of specified plants, plant communities, and soil biota. It is often expressed by some measure of biomass accumulation.
Source Water Areas	Source water areas contain untreated water from streams, rivers, lakes, or underground aquifers that is used to supply private wells and public drinking water.
Special Use Authorization	A permit, term permit, lease, or easement that allows occupancy, use, rights, or privileges of NFS land.
Stand	A contiguous group of trees sufficiently uniform in age-class distribution, composition, and structure; and growing on a site of sufficiently uniform quality to be a distinguishable unit.
Stand Replacement Fire	A fire severity classification where at least 75 percent average top-kill of vegetation occurs within a typical fire perimeter.
Stressors	Any physical, chemical, or biological entity that can induce an adverse response. Stressors can arise from physical and biological alternations of natural disturbances, increased unmanaged demand for ecosystem services (such as recreation), alterations of the surrounding landscape, chemical alterations in regional air quality, or from legacy of past management actions.
Stronghold Populations	Directly associated with strong populations. For native fish, strong populations have stable numbers or are increasing, and all major life history forms that historically occurred within the watershed are present.
Structure (stand)	The horizontal and vertical distribution of components of a forest stand including the height, diameter, crown layers, and stems of trees, shrubs, herbaceous understory, snags, and down woody debris.
Suitable Habitat	Habitat that currently has both the fixed and variable stand attributes for a given species habitat requirements. Variable attributes change over time and may include seral stage, cover type and overstory canopy cover.
Sustainability	Meeting needs of the present generation without compromising the ability of future generations to meet their needs. Sustainability is composed of desirable social, economic, and ecological, economic conditions or trends interacting at varying spatial and temporal scales embodying the principles of multiple-use and sustained yield.

Temporary Road or Trail	A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or a forest trail and that is not included in a forest transportation atlas.
Threatened Species	Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range and which the appropriate Secretary has designated as a threatened species.
Timber Harvest	The removal of trees for wood fiber utilization and other multiple-use purposes.
Timber Production	The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. In addition, managing land to provide commercial timber products on a regulated basis with planned, scheduled entries.
Total Maximum Daily Load (TMDL)	An estimate of the total quantity of pollutants (from all sources - point, nonpoint, and natural) that may be allowed into waters without exceeding applicable water quality standards.
Total Motorized Route Density (TMRD)	Calculations made with the moving windows technique that includes open roads, restricted roads, roads not meeting all reclaimed criteria, and open motorized trails. The percent of the analysis area in relevant route density classes is calculated.
Traditional Cultural Areas	Those areas of the Forest used by American Indians for traditional activities and often referred to as “religious use areas” or “sacred areas.” They may include areas traditionally used for gathering of special forest products. These areas are not mapped as a Management Area, but specific areas are delineated and kept on file in the supervisor’s office. A data layer showing the traditional cultural areas is retained in the KNF GIS library.
Trail	A route 50 inches or less in width or a route over 50 inches wide that is identified and managed as a trail.
Transitory Range	Rangelands not normally suitable for livestock grazing which have been made suitable for a period of time by a management action. In the Forest Service, this mostly pertains to areas that have been logged and provide forage for one or two decades until the trees return at high densities.
Unauthorized Road or Trail	A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a forest transportation atlas.
Ungulate	A hoofed mammal such as a deer or elk.
Unplanned Ignition	A wildland fire resulting from an unplanned event. Unplanned ignitions are caused by lightning, volcanoes, and unauthorized or accidental human-caused actions.

Vegetation Management

Activities designed primarily to promote the health of forest vegetation in order to achieve desired results. When vegetation is actively managed, it means that it is manipulated or changed on purpose by humans to produce desired results. Where active management of vegetation is required, techniques are based on the latest scientific research and mimic natural processes as closely as possible. Vegetation management is the practice of manipulating the species mix, age, fuel load, and/or distribution of wildland plant communities within a prescribed or designated management area in order to achieve desired results. It includes prescribed burning, the use of unplanned fire ignitions, grazing, chemical applications, biomass harvesting, and any other economically feasible methods of enhancing, retarding, modifying, transplanting, or removing the aboveground parts of plants.

Watershed

A geographic area of land, water, and biota within the confines of a drainage divide. The total area above a given point of a water body that contributes flow to that point.

Watershed Condition Rating

The state of the watershed based on physical and biogeochemical characteristics and processes (such as, hydrologic, geomorphic, landscape, topographic, vegetative cover, and aquatic habitat), water flow characteristics and processes (such as volume and timing), and water quality characteristics and processes (such as chemical, physical, and biological).

Low: Watersheds exhibit geomorphic, hydrologic, and biotic integrity, relative to their natural potential condition. The drainage network is generally stable. Physical, chemical, and biologic conditions suggest that soil, aquatic, and riparian systems are predominately functional in terms of supporting beneficial uses.

Moderate: Watersheds exhibit moderate geomorphic, hydrologic and biotic integrity relative to their natural potential condition. Portions of the watershed may exhibit an unstable drainage network. Physical, chemical, and biologic conditions suggest that soil, aquatic, and riparian systems may not support beneficial uses.

High: Watersheds may have limited geomorphic, hydrologic, and biotic integrity relative to their natural potential condition. A majority of the drainage network may be unstable. Physical, chemical, and biologic conditions suggest that soil, riparian, and it is assumed that beneficial uses are not generally supported.

Watershed Scale Aquatic Restoration

Restoration, based on problem-identification through watershed analyses, where the emphasis is on treating the entire catchment area rather than focusing on just a local project or site. The intent is to establish a trend, at the watershed scale, toward a desired condition of functions and processes, or toward proper functioning condition within an acceptable range of variability.
Site-scale restoration is then used to address or treat specific elements Watershed-scale problems can be defined as anything that interferes with the normal functions and processes that operate in a watershed, from runoff volume and timing of stream flows to slope stability, to canopy conditions in the riparian areas, and water quality.

Wet Season A time frame that identifies the length of leaving tops and limbs onsite for nutrient retention and soil productivity. It should consist of a minimum of 4 to 6 months, not including summer months from July through September.

Wetlands Those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances do or would support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, peatlands, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

Wilderness Character Wilderness character may be described as the combination of biophysical, experiential, and symbolic ideals that distinguish wilderness from all other lands. The definition of wilderness from section 2 (c) of the Wilderness Act identifies four qualities of wilderness related to wilderness character:

Untrammeled – wilderness is essentially unhindered and free from modern human control or manipulation;

Natural – wilderness ecological systems are substantially free from the effects of modern civilization;

Undeveloped – wilderness is essentially without permanent improvements or modern human occupation; and

Outstanding opportunities for solitude or a primitive and unconfined type of recreation – Wilderness provide outstanding opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.

Wildfire An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildland Fire A general term describing any non-structure fire that occurs in the wildland. Two distinct types of wildland fire have been defined and include planned ignitions (prescribed fire) and natural, unplanned fire (wildfire).

Wildland Fire Mitigation Plan A plan for an at-risk community that:

Is developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and state agency responsible for forest management, in consultation with interested parties and the federal land management agencies managing land in the vicinity of the at-risk community;

Identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on federal and non-federal land that will protect one or more at-risk communities and essential infrastructure; and

Recommends measures to reduce structural ignitability throughout the at-risk community.

Wildland Urban Interface (WUI)

The term "wildland urban interface" means either:

(A) an area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan; or

(B) in the case of any area for which a community wildfire protection plan is not in effect,

(i) an area extending ½-mile from the boundary of an at-risk community;

(ii) an area within 1 ½ miles of the boundary of an at-risk community, including any land that—

(I) has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community;

(II) has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or

(III) is in condition class 3, as documented by the Secretary in the project-specific environmental analysis; and

(iii) an area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuel reduction to provide safer evacuation from the at-risk community.

Wildlife Crossing

A structure that facilitates the safe movement of wildlife across a man-made barrier such as a highway or railroad, or warning systems for motorist that reduce the likelihood of a collision with wildlife. Examples include overpasses, underpasses, culverts, fencing and electronic systems that detect the presence of large animals, and flash warning signs to slow down drivers.

Winter (Recreation)

December 1 through April 30 every year. This is the period defined for the suitable-use tables for winter motorized and non-motorized activities.

Winter Range

The area available to and used by wildlife (big game) during the winter season (Dec 1 to April 30). Generally, lands below 4,000 feet in elevation, on south and west aspects, that provides forage and cover.

Wolf Rendezvous Site

Sites that are used once wolf pups are old enough to leave the den. These sites are meeting places where the pack gathers and where the pups are often left while most of the adult wolves in the pack are hunting.

Appendix A—Possible Actions

Proposed and possible actions are those actions that the Forest anticipates to occur over the life of the Plan that show the variety of multiple use opportunities or resource management programs that the Forest expects to provide (36 CFR 219.11(b)). The proposed and possible actions are presented as a brief summary of the types of projects that may occur to maintain or move the Forest toward desired conditions. Because the Plan is a strategic document that provides general management guidance, the following items include program strategies anticipated during the next 15 years.

The list of proposed and possible actions is not intended to be all-inclusive, nor are they intended to be decisions. They are projections of what actions may take place in the future for program areas that might constitute the typical annual program of work for a forest.

Vegetation Management

Vegetation management includes those activities that actively move vegetation towards desired conditions. Vegetation management might include activities that would maintain or increase representation of early seral, shade-intolerant, drought and fire tolerant, insect/disease resistant species dominance types. Activities could treat areas to maintain or improve forest resilience, natural diversity, and productivity, and to reduce negative impacts of non-native organisms over the life of the Plan. Specifically, the following types of actions are likely to occur:

- Thinning stands to maintain or improve forest health and trend towards historic densities, composition, and structure;
- Regeneration timber harvest using a variety of silvicultural prescriptions (see timber section);
- Planting blister rust resistant white pine;
- Pruning of white pine to reduce vulnerability to blister rust fungus;
- Planting shade-intolerant, fire-adapted, drought resistant species;
- Managing stands to retain or move towards old growth;
- Treating invasive terrestrial plant species; and
- Treating insects and disease using integrated pest management techniques.

Fire Management

Actions related to treatment of fuels will include the following:

- Planned ignitions;
- Mechanical treatments, including commercial timber sales and noncommercial treatments; and
- Unplanned ignitions.

Watershed, Soils, Riparian, Aquatic Habitat, and Aquatic Species

Activities may include:

- Active stream restoration actions at selected stream reaches to improve degraded conditions and stream channel stability;
- Constructing instream structures to stabilize channels and improve aquatic habitat;
- Planting riparian vegetation for bank stability and shade;

- Treating invasive terrestrial plant species in riparian areas to improve riparian community structure;
- Removal, reconstruction, or improved maintenance of roads located in riparian areas to improve watershed health and reduce sediment delivery to the aquatic ecosystem;
- Treating upland roads to reduce water interception and reduce landslide risk;
- Completing status assessments of water quality limited streams in cooperation with Montana Department of Environmental Quality through water quality assessments, total maximum daily loads, restoration plans, best management practices implementation, and monitoring;
- Culvert replacement or removal to improve passage for native species, where appropriate;
- Culvert replacement or removal to improve hydrologic function and sediment transport;
- Riparian area fencing;
- Reclamation of abandoned mines and rehabilitation of disturbed sites; and
- Collaborate with Montana Fish Wildlife and Parks, other agencies, and the public to reintroduce native fish species to their historic habitat.

Wildlife

Wildlife habitat management involves establishing and maintaining the vegetation diversity necessary to provide food, cover, and security for all wildlife species native to the Forest in cooperation with federal, state, and other organizations. Activities might include:

- Maintenance or restoration of wildlife habitat (e.g., burning, invasive terrestrial plant species control, aspen promotion, vegetation alteration, wetland protection, thinning encroaching conifers, hardwood management, etc.);
- Site-specific improvement of motorized access densities (through road closures or restrictions) and secure core habitat parameters (by preventing disturbance through activities) within Bear Management Units;
- Travel management restrictions in concert with grizzly bear and big game direction to provide secure habitat for resident wildlife species during important biological periods (e.g., denning, rearing, nesting);
- Conducting amphibian surveys to better map important breeding habitats and their conditions;
- Cooperative work with other agencies and organizations to promote various wildlife habitats such as bighorn sheep habitat, big game winter range, etc.;
- Cooperative work with other internal resources such as range and hydrology to manage livestock influence on wildlife water sources and foraging habitats with emphasis on native ungulates;
- Cooperative work with other agencies and organizations in the monitoring of wildlife species important to Montana such as the peregrine falcon, bighorn sheep, Coeur d'Alene salamander, bats, etc. for future management purposes;
- Maintain, manage, and protect lands known or suspected to contribute to landscape linkages for wildlife (e.g., wolverine, lynx, grizzly bears, and fisher) in order to promote genetic dispersal and healthy populations;
- Installation of nesting boxes for bats, ducks, and birds in areas where natural cavity habitat is lacking;
- Installing gates on abandoned mine adits to protect bat hibernacula and provide for public safety;
- Installation/maintenance of nesting platforms for loons and other waterfowl where habitat is lacking or in poor condition;

- Promote KNF Food Storage Order and other bear information to encourage safe use of the Forest for both humans and wildlife; and
- Continue to provide presentations on wildlife, emphasizing actions to take when "living and recreating in bear country."

Access and Recreation

Recreation management includes those activities that assist in providing a range of recreation opportunities across the Forest. Controlling visitor impacts to resources and other visitors; constructing and maintaining facilities and trails; and providing a positive visitor experience. Specifically, the following types of actions are likely to occur:

- Trail construction, reconstruction, maintenance, and relocation;
- Construction of facilities such as parking areas, toilets, trailheads, information kiosks, fishing access, and boating access points;
- Maintain and upgrade facilities such as campgrounds, picnic areas, toilets, and parking lots;
- Maintain and modify dispersed recreation sites to reduce or eliminate resource concerns;
- Complete and implement the Recreation Facility Analysis and identify unsustainable recreation programs to be eliminated. An unsustainable recreation program would be recreation site(s) that do not meet all of the following criteria, or fall sufficiently short in one or more of the criterion so as to render the capability of meeting it unsustainable. Criteria: meet Forest Recreation Niche, be environmentally sustainable, is supported by local communities, has sustainable management cost/benefit ratio;
- Implement the Scenic Management System across the Forest;
- Maintain (e.g., clearing, grading, brushing, providing functioning water structures) and improve (e.g., realignment, resurface, bridges and water structures) existing road and trail system and construct new roads and trails when needed;
- Enter into agreements with cooperators to provide access to winter motorized and non-motorized trails;
- Complete travel management planning. Identify summer routes that are open to wheeled motorized vehicles. Identify areas and trails for motorized and non-motorized winter uses on the Forest;
- Provide special use permits for commercial recreation opportunities (e.g., resorts, ski areas, outfitter and guides, special events);
- Provide recreational rental cabins and lookouts for public use; and
- Develop interpretation and educational opportunities for public enjoyment.

Road Construction

- Road reconstruction (includes BMP work);
- Temporary road construction;
- Annual road maintenance;
- Deferred road maintenance;
- Drainage structure repair and replacement;
- Putting roads into 'intermittent stored service';
- Road decommissioning; and

- Emergency repairs caused by natural events.

For Administrative Facilities

- Annual maintenance;
- Deferred maintenance;
- Improvements to meet health and safety requirements;
- Improvements to reduce operation and maintenance costs (increase energy efficiency);
- Emergency repairs caused by natural events; and
- Building decommissioning.

Lands

Lands program actions are likely to include:

- Maintaining landlines and actions associated with adjusting NFS ownership through purchases, exchanges, or other conveyances;
- Permitting uses (e.g., easements), structures (e.g., communication towers), outfitter/guides, and special events;
- Conveyance;
- Land exchange; and
- Right-of-way acquisition.

Cultural Resources

Cultural resources activities will likely consist of:

- Conducting surveys to identify sites, and follow-up actions necessary to protect, stabilize, or salvage sites;
- Identifying and evaluating cultural resources for the National Register of Historic Places;
- Stabilizing, rehabilitating, restoring, and caring for cultural resources;
- Conducting maintenance to historic facilities;
- Promoting heritage values through public education, outreach, and interpretative programs; and
- Conducting scientific and historic research on cultural resources.

American Indian Rights and Interests

Activities will likely consist of:

- Continued habitat management of traditional use areas through development of management plans for ongoing consultation through a cooperatively established communication policy;
- Cooperatively established policy for continued access and acquisition of forest products for each federally recognized tribe with historical or treaty interest for cultural uses; and
- Ongoing government-to-government and staff consultation for each federally recognized tribe with historical or treaty interests in forest land, through a cooperatively established communication policy.

Timber

Timber management is used to move vegetation towards desired condition and to reduce fuels. Activities for timber management may include the following:

- Intermediate timber harvest (commercial thinning, improvement cutting, etc.);
- Regeneration harvest with treatments that are even-age in nature (clearcut, or two-age regeneration), or uneven-age (group selection or single tree selection); and
- Salvage of dead or dying timber.

The predicted volume sold (under current budget levels) is 47.5 MMBF/year. It is anticipated that an average of 5,700 acres per year would be harvested to achieve this timber volume and move vegetation towards desired conditions.

Minerals

Activities will likely consist of:

- Locatable minerals exploration and development;
- Mineral materials development;
- Abandoned mine reclamation; and
- Locatable and leasable minerals exploration and development.

Grazing

Activities will likely consist of:

- Permitting livestock grazing where compatible with management area suitability.

Special Forest Products

- Gathering of firewood, huckleberries, and other special forest products.

Social and Economic Systems

- Contribute to and support local jobs and labor income within the counties surrounding the Forest through anticipated output associated with management activities.

Appendix B—Summary of Retained Decisions

Introduction

The KNF is including the direction from the following decisions with their associated biological opinions:

- Inland Native Fish Strategy (INFISH) - Decision Notice and Finding of No Significant Impact (USDA Forest Service, July 1995)
- Forest Plan Amendments for Motorized Access Management Within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones - Record of Decision (USDA Forest Service, November 2011)
- Northern Rockies Lynx Management Direction - Record of Decision (USDA Forest Service, March 2007)

Following are key components of this retained direction, including desired conditions, standards, guidelines, and monitoring requirements. Copies of the Records of Decision and associated biological opinions for these retained decisions are available on the web at http://www.fs.usda.gov/main/kootenai/landmanagement/planning.

The direction within these retained decisions has the same definitions as found in this Forest Plan (see pages 11 and 12). Projects and activities must be consistent with the direction within these decisions.

Inland Native Fish Strategy

The Inland Native Fish Strategy (INFISH) amended the Forest Plans of 22 national forests in eastern Oregon, eastern Washington, western Montana (including the Kootenai NF), Idaho (including the Idaho Panhandle NFs), and portions of Nevada when it was signed in 1995. This decision is retained in the revised Forest Plan through standard FW-STD- RIP-03.

INFISH includes riparian goals, riparian management objectives, and “standards and guidelines.” Riparian goals and riparian management objectives are defined on page II-12 of the Inland Native Fish Strategy Environmental Assessment (USDA Forest Service 1995). “Standards and guidelines” are not defined except to state they were developed and describe where they were to be applied. The definition of riparian goals is consistent with the definition of “goals” on page 9 of this Forest Plan. The definition of riparian management objectives is consistent with the definition of “desired conditions” in the Forest Plan rather than the definition of “objectives.” The Forest Plan thus defines the riparian management objectives as “desired conditions.”

Unlike the Forest Plan, which has specific definitions for standards (limitation or requirement that is applied to project and activity decision-making to help achieve goals and objectives) and for guidelines (operational practice and procedure that is applied to project and activity decision-making to achieve goals, desired conditions, and objectives), INFISH blends them into “standards and guidelines.” Most of the INFISH “standards and guidelines” fit the guideline category of “operational practices or procedures.” However, some INFISH “standards and guidelines” are “limitations or requirements,” particularly those that prohibit certain activities. The Forest Plan thus defines the following INFISH “standards and guidelines” as standards: TM-1, MM-3, MM-4, MM-5, and RA-4. All others are defined as guidelines.

Consultation on effects to bull trout from continued implementation of USFS LRMPs and BLM RMPs, as amended by PACFISH and INFISH (US Fish and Wildlife Service 1998) is in effect for this retained decision. In response to the Reasonable and Prudent Measures in the biological opinion as well as the need for change for the revised Plan (developing restoration strategies), INFISH Priority Watersheds have been added to and adapted into Conservation and Restoration watersheds. Furthermore, in INFISH, the description for Category 4 under Standard Widths Defining Interim RHCAs is different for Priority Watersheds (Category 4 [d]: The area from the edges of the stream channel, wetland, landslide, or

landslide-prone area to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest) and those not identified as Priority Watersheds (Category 4 [e], which uses one-half site-potential tree, or 50 feet slope distance). The Forest Plan now uses a consistent description (Category 4 [d]) for all Category 4 streams and water bodies (see the glossary).

INFISH was originally intended to be an eighteen month strategy and therefore used the word "interim" to describe Riparian Habitat Conservation Areas (RHCAs). Over time, and by continuing INFISH direction in this Plan, the interim RHCA widths have essentially become "default" widths. The descriptions in INFISH of where to apply interim RHCA widths, and the requirements for modifying interim RHCAs, establishing RHCAs that are different from the interim RHCA widths, and changing site-specific widths are somewhat confusing. To clarify:

- Interim (default) RHCA widths are applied where watershed analysis has not been completed;
- Establishing new RHCAs requires a watershed analysis in advance;
- Modifying interim (default) RHCAs can be accomplished by amendment in the absence of watershed analysis; and
- Site-specific widths can be changed (increased where necessary to achieve management goals and objectives, or decreased where interim widths are not needed to attain RMOs or avoid adverse effects) and requires documentation of rationale supporting the change, but does not require watershed analysis or an amendment.[6]

The following information is excerpted from the Decision Notice of the Inland Native Fish Strategy (USDA Forest Service, 1995: Interim Strategies for Managing Fish-producing Watersheds in Eastern Oregon, Washington, Idaho, Western Montana, and Portions of Nevada USDA Forest Service, Intermountain, Northern, and Pacific Northwest Regions).

Riparian Goals

The goals establish an expectation of the characteristics of healthy, functioning watersheds, riparian areas, and associated fish habitats. Since the quality of water and fish habitat in aquatic systems is inseparably related to the integrity of upland and riparian areas within the watersheds, the strategy identifies several goals for watershed, riparian, and stream channel conditions. The goals are to maintain or restore:

(1) water quality, to a degree that provides for stable and productive riparian and aquatic ecosystems;

(2) stream channel integrity, channel processes, and the sediment regime (including the elements of timing, volume, and character of sediment input and transport) under which the riparian and aquatic ecosystems developed;

(3) instream flows to support healthy riparian and aquatic habitats, the stability and effective function of stream channels, and the ability to route flood discharges;

(4) natural timing and variability of the water table elevation in meadows and wetlands;

(5) diversity and productivity of native and desired non-native plant communities in riparian zones;

(6) riparian vegetation, to:

[6] The distinction is the difference between a site-specific area (for example, a geologic break on a short stretch of stream that limits effects to the area between the stream and the break) versus the overall RHCA width for an entire stream or water body.

(a) provide an amount and distribution of large woody debris characteristic of natural aquatic and riparian ecosystems;

(b) provide adequate summer and winter thermal regulation within the riparian and aquatic zones; and

(c) help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the communities developed.

(7) riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved within the specific geo-climatic region; and

(8) habitat to support populations of well-distributed native and desired non-native plant, vertebrate, and invertebrate populations that contribute to the viability of riparian-dependent communities.

Riparian Management Objectives (RMOs)

In the development of PACFISH, landscape-scale interim RMOs describing good habitat for anadromous fish were developed, using stream inventory data for pool frequency, large woody debris, bank stability and lower bank angle, and width to depth ratio. Applicable published and non-published scientific literature was used to define favorable water temperatures. All of the described features may not occur in a specific segment of stream within a watershed, but all generally should occur at the watershed scale for stream systems of moderate to large size (3rd to 6th order streams).

This material was reviewed in regard to its applicability to inland native fish. It has been determined that the RMOs described in PACFISH are good indicators of ecosystem health. The analysis that led to development of the RMOs involved watersheds in Oregon, Washington, and Idaho that include inland native fish as well as anadromous fish. With the exception of the temperature objective, which has been modified, the RMOs represented a good starting point to describe the desired condition for fish habitat.

Under INFISH, these interim RMOs would apply where watershed analysis has not been completed. The components of good habitat can vary across specific geographic areas. Interim RMOs are considered to be the best watershed scale information available; national forest managers would be encouraged to establish site-specific RMOs through watershed analysis or site-specific analysis.

RMOs should be refined to better reflect conditions that are attainable in a specific watershed or stream reach based on local geology, topography, climate, and potential vegetation. Establishment of RMOs would require completion of watershed analysis to provide the ecological basis for the change. However, interim RMOs may be modified by amendment in the absence of watershed analysis where watershed or stream reach specific data support the change. In all cases, the rationale supporting RMOs and their effects would be documented.

The interim RMOs for stream channel conditions provide the criteria against which attainment or progress toward attainment of the riparian goals is measured. Interim RMOs provide the target toward which managers' aim as they conduct resource management activities across the landscape. It is not expected that the objectives would be met instantaneously, but rather would be achieved over time. However, the intent of interim RMOs is not to establish a ceiling for what constitutes good habitat conditions. Actions that reduce habitat quality (whether existing conditions are better or worse than objective values) would be inconsistent with the purpose of this interim direction. Without the benchmark provided by measurable RMOs, habitat suffers continual erosion.

As indicated below, some of the objectives would apply to only the forested ecosystems, some to non-forested ecosystems, and some to all ecosystems regardless of whether or not they are forested.

Objectives for six environmental features have been identified, including one key feature and five supporting features. These features are good indicators of ecosystem health, are quantifiable, and are subject to accurate, repeatable measurements. They generally apply to 3rd to 6th order watersheds.

Under the strategy, interim RMOs would apply to watersheds occupied by inland native fish. Application of the interim RMOs would require thorough analysis. That is, if the objective for an important feature such as pool frequency is met or exceeded, there may be some latitude in assessing the importance of the objectives for other features that contribute to good habitat conditions. For example, in headwater streams with an abundance of pools created by large boulders, fewer pieces of large wood might still constitute good habitat. The goal is to achieve a high level of habitat diversity and complexity through a combination of habitat features, to meet the life-history requirements of the fish community inhabiting a watershed.

Many people commented on the draft what it meant to not retard the attainment of the RMOs. For the purposes of analysis, to "retard" would mean to slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system. This obviously will require professional judgment and should be based on watershed analysis of local conditions.

Table 23. Interim Riparian Management Objectives

Habitat Feature	Interim Objectives
Pool Frequency (kf[1]) (all systems)	Varies by channel width (see table 24[3])
Water Temperature (sf[2])	No measurable increase in maximum water temperature (7 day moving average of daily maximum temperature measured as the average of the maximum daily temperature of the warmest consecutive 7-day period). Maximum water temperatures below 59°F within adult holding habitat and below 48°F within spawning and rearing habitats
Large Woody Debris (sf) (forested systems)	East of Cascade Crest in Oregon, Washington, Idaho, Nevada, and western Montana: >20 pieces per mile; >12 inch diameter; >35 foot length
Bank Stability (sf) (non-forested systems)	>80 percent stable
Lower Bank Angle (sf) non-forested systems)	>75 percent of banks with <90 degree angle (i.e., undercut)
Width/Depth Ration (sf) (all systems)	<10, mean wetted width divided by mean depth

[1] Key feature
[2] Supporting feature
[3] Table 2 in the 1995 INFISH ROD

Table 24. Interim Objectives for Pool Frequency

Wetted Width (feet)	Pools per Mile
10	96
20	56
25	47
50	26
75	3
100	18
125	14
150	12
200	9

Riparian Habitat Conservation Areas (RHCAs)

Interim RHCAs would be delineated in every watershed on NFS lands within the geographic range of the strategy.

RHCAs are portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines. RHCAs include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by (1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams; (2) providing root strength for channel stability; (3) shading the stream; and (4) protecting water quality (Naiman et al. 1992).

The RHCAs under the strategy would be nearly identical to those under the Idaho Conservation Strategy (Idaho Department of Fish and Game Commission's Bull Trout Conservation Strategy, 1995). The main difference is that, under the Idaho Conservation Strategy, RHCAs would apply only in key watersheds. Since their key watersheds are large and cover much of the NFS lands in Idaho, there would be little difference between the two strategies in regard to RHCAs within occupied bull trout habitat.

Widths of interim RHCAs that are adequate to protect streams from non-channelized sediment inputs should be sufficient to provide other riparian functions, including delivery of organic matter and woody debris, stream shading, and bank stability (Brazier and Brown 1973, Gregory et al. 1984, Steinblums et al. 1984, Beschta et al. 1987, McDade et al. 1990, Sedell and Beschta 1991, Belt et al. 1992). The effectiveness of riparian conservation areas in influencing sediment delivery from non-channelized flow is highly variable. A review by Belt et al. (1992) of studies in Idaho (Haupt 1959a, 1959b; Ketcheson and Megehan 1996; Burroughs and King 1985, 1989; and elsewhere (Trimble and Sartz 1957, Packer 1967, Swift 1986) concluded that non-channelized sediment flow rarely travels more than 300 feet and that 200-300 foot riparian "filter strips" are generally effective at protecting streams from sediment from non-channelized flow.

Interim RHCA widths apply where watershed analysis has not been completed. Site-specific widths may be increased where necessary to achieve riparian management goals and objectives, or decreased where interim widths are not needed to attain RMOs or avoid adverse effects. Establishment of RHCAs would require completion of watershed analysis to provide the ecological basis for the change. However, interim RHCAs may be modified by amendment in the absence of watershed analysis where stream reach or site-specific data support the change. In all cases, the rational supporting RHCA widths and their effects are documented.

Standard Widths Defining Interim RHCAs

The four categories of stream or water bodies and the standard widths for each are:

Category 1- Fish-bearing streams: Interim RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet, including both sides of the stream channel), whichever is greatest.

Category 2- Permanently flowing non-fish-bearing streams: Interim RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year flood plain, or to the outer edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet, including both sides of the stream channel), whichever is greatest.

Category 3- Ponds, lakes, reservoirs, and wetlands greater than 1 acre: Interim RHCAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or to the extent of moderately and highly unstable areas, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs or from the edge of the wetland, pond, or lake, whichever is greatest.

Category 4- Seasonally flowing or intermittent streams, wetlands less than 1 acre, landslides, and landslide-prone areas: This category includes features with high variability in size and site-specific characteristics. At a minimum, the interim RHCAs must include:

(a) the extent of landslides and landslide-prone areas;

(b) the intermittent stream channel and the area to the top of the inner gorge;

(c) the intermittent stream channel or wetland and the areas to the outer edges of the riparian vegetation;

(d) for Priority Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest;

(e) for watersheds not identified as Priority Watersheds, the area from the edges of the stream channel, wetland, landslide, or landslide-prone area to a distance equal to the height of one-half site potential tree, or 50 feet slope distance, whichever is greatest.

In non-forested rangeland ecosystems, the interim RHCA width for permanently flowing streams in categories 1 and 2 is the extent of the 100-year flood plain.

Standards and Guidelines

Project and site-specific standards and guidelines listed below would apply to all RHCAs and to projects and activities in areas outside RHCAs that are identified through NEPA analysis as potentially degrading RHCAs. The combination of the standards and guidelines for RHCAs specified below with the standards and guidelines of existing forest plans and Land Use Plans would provide a benchmark for management actions that reflects increased sensitivities and a commitment to ecosystem management.

Under the strategy, the standards and guidelines listed below would be applied to the entire geographic area for the project. Due to the short-term duration of this interim direction, provisions for development and implementation of road/transportation management plans and the relocation, elimination, or reconstruction of existing roads, facilities, and other improvements (i.e., RF-2 c, RF-3 a and c, RF-4, RF-5, GM-2, RM-1, and MM-2) would be initiated but would be unlikely to be completed during the interim period. Where existing roads, facilities, and other improvements found to be causing an unacceptable risk cannot be relocated, eliminated, or reconstructed, those improvements would be closed. Also, due to the short-term duration of this direction, adjustments to management not within the sole discretion of the agencies (i.e., RF-1, LH-3, RA-1, WR-2, FW-3, and FW-4) would be initiated but would be unlikely to be completed during the interim period.

The standards and guidelines under INFISH have the same intent as the 38 standards and guidelines under the Idaho Conservation Strategy. INFISH had one additional standard and guideline (RA-4), related to storage of fuels and refueling in RHCAs.

Many people commented on the draft what it meant to not retard the attainment of the RMOs. For the purposes of analysis, to "retard" would mean to slow the rate of recovery below the near natural rate of recovery if no additional human caused disturbance was placed on the system. This obviously will require professional judgment and should be based on watershed analysis of local conditions.

Timber Management

TM-1. Prohibit timber harvest, including fuelwood cutting, in RHCAs, except as described below

(a) Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuelwood cutting in RHCAs only where present and future woody debris needs are met, where cutting would not retard or prevent attainment of other Riparian Management Objectives (RMOs) and where adverse effects on inland native fish can be avoided. For priority watersheds, complete watershed analysis prior to salvage cutting in RHCAs.

(b) Apply silvicultural practices for RHCAs to acquire desired vegetation characteristics where needed to attain RMOs. Apply silvicultural practices in a manner that does not retard attainment of RMOs and that avoids adverse effects on inland native fish.

Roads Management

RF-1. Cooperate with federal, tribal, state, and county agencies, and cost-share partners to achieve consistency in road design, operation, and maintenance necessary to attain RMOs.

RF-2. For each existing or planned road, meet the RMOs and avoid adverse effects on inland native fish by:

(1) completing watershed analyses prior to construction of new roads or landings in RHCAs within priority watersheds.

(2) minimizing road and landing locations in RHCAs.

(3) initiating development and implementation of a Road Management Plan or a Transportation Management Plan. At a minimum, address the following items in the plan:

  (a) Road design criteria, elements, and standards that govern construction and reconstruction.

  (b) Road management objectives for each road.

  (c) Criteria that govern road operation, maintenance, and management.

  (d) Requirements for pre-, during-, and post-storm inspections and maintenance.

  (e) Regulation of traffic during wet periods to minimize erosion and sediment delivery and accomplish other objectives.

  (f) Implementation and effectiveness monitoring plans for road stability, drainage, and erosion control.

  (g) Mitigation plans for road failures.

(4) avoiding sediment delivery to streams from the road surface.

(a) Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is infeasible or unsafe.

(b) Route road drainage away from potentially unstable stream channels, fills, and hillslopes.

(5) avoiding disruption of natural hydrologic flow paths.

(6) avoiding sidecasting of soils or snow. Sidecasting of road material is prohibited on road segments within or abutting RHCAs in priority watersheds.

RF-3. Determine the influence of each road on the RMOs. Meet RMOs and avoid adverse effects on inland native fish by:

(1) reconstructing road and drainage features that do not meet design criteria or operation and maintenance standards, or that have been shown to be less effective than designed for controlling sediment delivery, or that retard attainment of RMOs, or do not protect priority watersheds from increased sedimentation.

(2) prioritizing reconstruction based on the current and potential damage to inland native fish and their priority watersheds, the ecological value of the riparian resources affected, and the feasibility of options such as helicopter logging and road relocation out of RHCAs.

(3) closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to listed inland native fish in priority watersheds, and the ecological value of the riparian resources affected.

RF-4. Construct new, and improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions. Substantial risk improvements include those that do not meet design and operation maintenance criteria, or that have been shown to be less effective than designed for controlling erosion, or that retard attainment of RMOs, or that do not protect priority watersheds from increased sedimentation. Base priority for upgrading on risks in priority watersheds and the ecological value of the riparian resources affected. Construct and maintain crossings to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.

RF-5. Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams.

Grazing Management

GM-1. Modify grazing practices (e.g., accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of RMOs or are likely to adversely affect inland native fish. Suspend grazing if adjusting practices is not effective in meeting RMOs.

GM-2. Locate new livestock handling and/or management facilities outside of RHCAs. For existing livestock handling facilities inside the RHCAs, assure that facilities do not prevent attainment of RMOs. Relocate or close facilities where these objectives cannot be met.

GM-3. Limit livestock trailing, bedding, salting, loading, watering, and other handling efforts to those areas and times that would not retard or prevent attainment of RMOs or adversely affect inland native fish.

GM-4. Adjust wild horse and burro management to avoid impacts that prevent attainment of RMOs or adversely affect inland native fish.

Recreation Management

RM-1. Design, construct, and operate recreation facilities, including trails and dispersed sites, in a manner that does not retard or prevent attainment of the RMOs and avoids adverse effects on inland native fish. Complete watershed analysis prior to construction of new recreation facilities in RHCAs within priority watersheds. For existing recreation facilities inside RHCAs, assure that the facilities or use of the facilities would not prevent attainment of RMOs or adversely affect inland native fish. Relocate or close recreation facilities where RMOs cannot be met or adverse effects on inland native fish cannot be avoided.

RM-2. Adjust dispersed and developed recreation practices that retard or prevent attainment of RMOs or adversely affect inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting RMOs and avoiding adverse effects on inland native fish, eliminate the practice or occupancy.

RM-3. Address attainment of RMOs and potential effect on inland native fish in Wild and Scenic Rivers, Wilderness, and other Recreation Management plans.

Minerals Management

MM-1. Minimize adverse effects to inland native fish species from mineral operations. If the Notice of Intent indicates a mineral operation would be located in a RHCAs, consider the effects of the activity on inland native fish in the determination of significant surface disturbance pursuant to 36 CFR 228.4. For operations in a RHCA ensure operators take all practicable measures to maintain, protect, and rehabilitate fish and wildlife habitat which may be affected by the operations. When bonding is required, consider (in the estimation of bond amount) the cost of stabilizing, rehabilitating, and reclaiming the area of operations.

MM-2. Locate structures, support facilities, and roads outside RHCAs. Where no alternative to siting facilities in RHCAs exists, locate and construct the facilities in ways that avoid impacts to RHCAs and streams adverse effects on inland native fish. Where no alternative to road construction exists, keep roads to the minimum necessary for the approved mineral activity. Close, obliterate and revegetate roads no longer required for mineral or land management activities.

MM-3. Prohibit solid and sanitary waste facilities in RHCAs. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in RHCAs exists, and releases can be prevented and stability can be ensured, then:

(1) analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics;

(2) locate and design the waste facilities using the best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in RHCA;

(3) monitor waste and waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid adverse effects to inland native fish and to attain RMOs;

(4) reclaim and monitor waste facilities to assure chemical and physical stability and revegetation to avoid adverse effects to inland native fish and to attain the RMOs; and

(5) require reclamation bonds adequate to ensure long-term chemical or physical stability and successful revegetation of mine waste facilities.

MM-4. For leasable minerals, prohibit surface occupancy within RHCAs for oil, gas, and geothermal exploration and development activities where contracts and leases do not already exist, unless there are no other options for location and RMOs can be attained and adverse effects to inland native fish can be avoided. Adjust the operating plans of existing contracts to (1) eliminate impacts that prevent attainment of RMOs and (2) avoid adverse effects to inland native fish.

MM-5. Permit sand and gravel mining and extraction within RHCAs only if no alternatives exist, if the action(s) would not retard or prevent attainment of RMOs, and adverse effects to inland native fish can be avoided.

MM-6. Develop inspection, monitoring, and reporting requirements for mineral activities. Evaluate and apply the results of inspection and monitoring to modify mineral plans, leases, or permits as needed to eliminate impacts that prevent attainment of RMOs and avoid adverse effects on inland native fish.

Fire/Fuels Management

FM-1. Design fuel treatment and fire suppression strategies, practices, and actions so as not to prevent attainment of RMOs, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management actions could perpetuate or be damaging to long-term ecosystem function or inland native fish.

FM-2. Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of RHCAs. If the only suitable location for such activities is within the RHCAs, an exemption may be granted following a review and recommendation by a resource advisor. The advisor would prescribe the location, use conditions, and rehabilitation requirements, with avoidance of adverse effects to inland native fish a primary goal. Use an interdisciplinary team, including a fishery biologist, to predetermine incident base and helibase locations during pre-suppression planning.

FM-3. Avoid delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist; or, following a review and recommendation by a resource advisor and a fishery biologist when the action agency determines an escape fire would cause more long-term damage to fish habitats than chemical delivery to surface waters.

FM-4. Design prescribed burn projects and prescriptions to contribute to the attainment of the RMOs.

FM-5. Immediately establish an emergency team to develop a rehabilitation treatment plan to attain RMOs and avoid adverse effects on inland native fish whenever RHCAs are significantly damaged by a wildfire or a prescribed fire burning out of prescription.

Lands

LH-1. Require instream flows and habitat conditions for hydroelectric and other surface water development proposals that maintain or restore riparian resources, favorable channel conditions, and fish passage, reproduction, and growth. Coordinate this process with the appropriate state agencies. During relicensing of hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission (FERC) that require fish passage and flows and habitat conditions that

maintain/restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate state agencies.

LH-2. Locate new hydroelectric ancillary facilities outside RHCAs. For existing ancillary facilities inside the RHCAs that are essential to proper management, provide recommendations to FERC to assure that the facilities will not prevent attainment of the RMOs and that adverse effects on inland native fish are avoided. Where these objectives cannot be met, provide recommendations to FERC that such ancillary facilities should be relocated. Locate, operate, and maintain hydroelectric facilities that must be located in RHCAs to avoid effects that would retard or prevent attainment of the RMOs and avoid adverse effects on inland native fish.

LH-3. Issue leases, permits, rights-of-way, and easements to avoid effects that would retard or prevent attainment of the RMOs and avoid adverse effects on inland native fish. Where the authority to do so was retained, adjust existing leases, permits, rights-of-way, and easements to eliminate effects that would retard or prevent attainment of the RMOs or adversely affect inland native fish. If adjustments are not effective, eliminate the activity. Where the authority to adjust was not retained, negotiate to make changes in existing leases, permits, rights-of-way, and easements to eliminate effects that would prevent attainment of the RMOs or adversely affect inland native fish. Priority for modifying existing leases, permits, rights-of-way, and easements would be based on the current and potential adverse effects on inland native fish and the ecological value of the riparian resources affected.

LH-4. Use land acquisition, exchange, and conservation easements to meet RMOs and facilitate restoration of fish stocks and other species at risk of extinction.

General Riparian Area Management

RA-1. Identify and cooperate with federal, tribal, state and local governments to secure instream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.

RA-2. Trees may be felled in RHCAs when they pose a safety risk. Keep felled trees on site when needed to meet woody debris objectives.

RA-3. Apply herbicides, pesticides, and other toxicants, and other chemicals in a manner that does not retard or prevent attainment of RMOs and avoids adverse effects on inland native fish.

RA-4. Prohibit storage of fuels and other toxicants within RHCAs. Prohibit refueling within RHCAs unless there are no other alternatives. Refueling sites within RHCAs must be approved by the Forest Service or Bureau of Land Management and have an approved spill containment plan.

RA-5. Locate water drafting sites to avoid adverse effects to inland native fish and instream flows, and in a manner that does not retard or prevent attainment of RMOs.

Watershed and Habitat Restoration

WR-1. Design and implement watershed restoration projects in a manner that promotes the long-term ecological integrity of ecosystems, conserves the genetic integrity of native species, and contributes to attainment of RMOs.

WR-2. Cooperate with federal, state, local, and tribal agencies, and private landowners to develop watershed-based Coordinated Resource Management Plans (CRMPS) or other cooperative agreements to meet RMOs.

Fisheries and Wildlife Restoration

FW-1. Design and implement fish and wildlife habitat restoration and enhance actions in a manner that contributes to attainment of the RMOs.

FW-2. Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of the RMOs or adversely affect inland native fish. For existing fish and wildlife interpretive and other user-enhancement facilities inside RHCAs assure that RMOs are met and adverse effects on inland native fish are avoided. Where RMOs cannot be met or adverse effects on inland native fish avoided, relocate or close such facilities.

FW-3. Cooperate with federal, tribal, and state wildlife management agencies to identify and eliminate wild ungulate impacts that prevent attainment of RMOs or adversely affect inland native fish.

FW-4. Cooperate with federal, tribal, and state fish management agencies to identify and eliminate adverse effects on inland native fish associated with habitat manipulation, fish stocking, fish harvest, and poaching.

Priority Watersheds

Priority watersheds have been designated in Oregon, Idaho, Montana, Nevada, and Washington. Criteria considered designating priority watersheds in the 22 national forests were:

1. Watersheds with excellent habitat or strong assemblages of inland native fish, with a priority on bull trout populations.
2. Watersheds that provide for meta-population objectives.
3. Degraded watersheds with a high restoration potential.

The intent of designating priority watersheds is to provide a pattern of protection across the landscape where habitat for inland native fish would receive special attention and treatment, Areas in good condition would serve as anchors for the potential recovery of depressed stocks, and also would provide colonists for adjacent areas where habitat had been degraded by land management or natural events, Those areas of lower quality habitat with high potential for restoration would become future sources of good habitat with the implementation of a comprehensive restoration program. Priority watersheds would have the highest priority for restoration, monitoring, and watershed analysis.

Within priority watersheds, ongoing activities have been screened. This screening effort is a way to monitor ongoing activities to categorize the extent of risk they represent to bull trout habitat or populations. Projects determined to be a high or medium risk must be reviewed by forest supervisors and, subject to valid existing rights, they have three options to pursue:

1. Modify the action to reduce the risk.
2. Postpone the action until the final direction is issued.
3. Cancel the action.

Forest supervisors will submit to their respective regional foresters an action plan for how high and moderate risk projects will be modified to avoid an unacceptable risk. This action plan will be submitted within one month. Modifications for moderate and high risk projects should be initiated within two months with high risk projects having the highest priority. If there are compelling reasons why a project cannot be modified, delayed, or cancelled, the forest supervisor will include in the action plan written

documentation of the rationale for such action and what other mitigating measures will be implemented to assure there is not an unacceptable risk. For low risk projects, forest supervisors must provide an action plan by March 1, 1996 for means to assure there is not an unacceptable risk.

Watershed Analysis

Watershed analysis is a systematic procedure for determining how a watershed functions in relation to its physical and biological components. This is accomplished through consideration of history, processes, landform, and condition. Generally, watershed analysis would be initiated where the interim RMOs and the interim RHCA widths do not adequately reflect specific watershed capabilities, or as required in the standards and guidelines before specific projects are initiated. The guidelines and procedural manuals being developed by the Interagency Watershed Analysis Coordination Team and other potentially relevant procedures (e.g., the Cumulative Watershed Effects Process for Idaho, etc.) would be considered and used, where appropriate, in development of a watershed analysis protocol. Eventually, any watershed analysis would follow the final *Ecosystem Analysis at a Watershed Scale*. Additional information will be sent out when it is available.

Watershed analysis is a prerequisite for determining which processes and parts of the landscape affect fish and riparian habitat, and is essential for defining watershed-specific boundaries for RHCAs and for RMOs. Watershed analysis can form the basis for evaluating cumulative watershed effects; defining watershed restoration needs, goals, and objectives; implementing restoration strategies; and monitoring the effectiveness of watershed protection measures, depending upon the issues to be addressed in the watershed analysis. Watershed analysis employs the perspectives and tools of multiple disciplines, especially geomorphology, hydrology, geology, aquatic and terrestrial ecology, and soil science. It is the framework for understanding and carrying out land use activities within a geomorphic context, and is a major component of the evolving science of ecosystem analysis. Forests should utilize local fish and game department, tribal staff, or other local groups whenever possible to increase the knowledge base and expertise for watershed analysis.

Watershed analysis consists of a sequence of activities designed to identify and interpret the processes operating in specific landscape. Since the concept of watershed analysis was first introduced, there has been much discussion as to the procedures and detail that a watershed analysis should complete. It is recognized that the components and intensity of the analysis would vary depending on level of activity and significance of issues involved. Following are the general process steps for watershed analysis currently being considered.

1. Characterization of the Watershed:
    a) Place the watershed in a broader geographic context.
    b) Highlight dominant features and processes with the watershed,
2. Identification of Issues and Key Questions:
    a) Key questions and resource components.
    b) Determine which issues are appropriate to analyze at this scale.
3. Description of Current Condition.
4. Description of Reference Conditions:
    a) Establish ecologically and geomorphically appropriate reference conditions for the watershed.

5. Interpretation of Information:

    a) Provide a comparison and interpretation of the current, historic, and reference conditions.

6. Recommendations:

    a) Provide conclusions and recommendations to management.

The process described above is significantly streamlined to allow managers to focus watershed analysis to address specific issues and management needs. This can include modification of RMOs, RHCAs, or identification of restoration and monitoring needs. The state-of-art for watershed analysis is still developing and the processes would need to be flexible.

Watershed Restoration

Watershed restoration comprises actions taken to improve the current conditions of watersheds to restore degraded habitat, and to provide long-term protection to natural resources, including riparian and aquatic resources. The strategy does not attempt to develop a restoration strategy given the short time period for implementation of this interim direction, It is expected that forests would utilize the information from watershed analysis and project development to initiate restoration projects where appropriate and funds are available. Priority watersheds would have the highest priority for restoration efforts.

Monitoring

Monitoring is an important component of the proposed interim direction. The primary focus is to verify that the standards and guidelines were applied during the project implementation. Monitoring to assess whether those protective measures are effective to attain riparian goals and management objectives would be a lower priority given the short time frame for this interim direction, Complex ecological processes and long time frames are inherent in the RMOs, and it is unrealistic to expect that the planned monitoring would generate conclusive results within 18 months. Nevertheless, it is critical to begin monitoring. Forests are urged to utilize current forest plan monitoring efforts, and Section 7 Monitoring results from PACFISH areas where on the same forest to establish a baseline for determining the effectiveness of these standards and guidelines. Priority watersheds would have the highest priority for monitoring efforts.

A third type of monitoring (validation monitoring) is intended to ascertain the validity of the assumptions used in developing the interim direction. Because of the short-term nature of the management direction, no specific requirements are included for validation monitoring.

Grizzly Bear Access Amendment

The design elements of the selected alternative for the Kootenai, Idaho Panhandle, and Lolo National Forests Land and Resource Management Plans Amendment for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones are included below.

Design Elements

I. The following access management standards would apply to individual BMUs within the Selkirk Recovery Zone on the IPNFs and Cabinet-Yaak Recovery Zone on the KNF, IPNFs and portion of the LNF:

A. The OMRD, TMRD, and percent core standards displayed in table 25 would be established for the BMUs in the Cabinet-Yaak and Selkirk grizzly bear ecosystems.

Table 25. Alternative E Updated – BMU Status and Selected Standards[1]

BMU	BMU Priorities	OMRD >1mi/mi^2(percent)		TMRD >2 mi/mi^2(percent)		Core Area (percent)		Percent NFS Land
		2009 Status	Selected Standard (max)	2009 Status	Selected Standard (max)	2009 Status	Selected Standard (min.)	
1-Cedar	2	14	15	10	15	83	80	99
2-Snowshoe	2	20	20	16	18	76	75	94
3-Spar	3	27	33	26	26	62	59	95
4-Bull	2	37	36	29	26	62	63	84
5-St. Paul	1	28	30	23	23	58	60	97
6-Wanless	1	29	34	34	32	53	55	85
7-SilverButte-Fisher	2	32	26	23	23	62	63	92
8-Vermillion	3	33	32	24	21	55	55	93
9-Callahan	2	27	33	26	26	59	55	90
10-Pulpit	2	44	44	29	34	51	52	95
11-Roderick	1	28	28	28	26	54	55	96
12-Newton	1	42	45	29	31	58	55	92
13-Keno	1	34	33	25	26	59	59	99
14-NW Peaks	1	28	31	26	26	56	55	99
15-Garver	1	29	33	25	26	55	55	94
16-East Fork Yaak	1	29	33	27	26	54	55	96
17-Big Creek	2	30	33	16	26	58	55	99
22-Mt.Headley	3	38	33	37	35	51	55	89
18-Boulder	3	31	33	35	29	50	55	92
19-Grouse [2, 3]	3	60	59	59	55	32	37	54
20-North Lightning	1	36	35	20	20	62	61	94
21-Scotchman	2	35	34	27	26	63	62	81
Blue-Grass	1	33	33	28	26	50	55	96
Long-Smith	1	21	25	14	15	73	67	92
Kalispell- Granite	1	31	33	28	26	49	55	96
Lakeshore	3	82	82	54	56	19	20	86
Salmo-Priest	2	30	33	24	26	66	64	99
Sullivan-Hughes	1	24	24	19	19	61	61	99
Myrtle	2	29	33	20	24	60	56	85
Ball-Trout	2	17	20	11	13	72	69	94

[1] Table 2 (page 11) in the Grizzly Bear Access Amendment ROD

[2] Less than or equal to 75 percent NFS lands

[3] Due to the high level of non-federal lands within the Grouse BMU, existing conditions and standards are calculated assuming no contribution of secure habitat from private lands

B. Parameters for establishing and managing core habitat in all BMUs:

1. In accordance with IGBC (1998) and Selkirk/Cabinet-Yaak Ecosystem Subcommittee (1998) direction, core areas shall be established for the purpose of providing secure habitat for grizzly bears.

   a) Core areas include high quality habitat within a BMU that contains no motorized travel routes or high use trails.

   b) Core areas do not include any gated or restricted roads but may contain roads that are impassable due to re-growth of vegetation, effective barriers other than gates, or placement of logging or forest debris so as to no longer function as a motorized route.

   c) When possible, core areas would be delineated by identifying and aggregating the full range of seasonal habitats that are available in the BMU.

   d) The IGBC anticipated that minimum core area size might be determined for each recovery zone. For the Selkirk/Cabinet-Yaak Grizzly Bear Recovery Zones, no scientifically based minimum effective size polygon for core area has been determined (Wakkinen and Kasworm 1997), though minimum block sizes of 2-8 mi2 were suggested. Therefore, discounting small or narrow blocks of core area is not prudent at this time. Individual project analyses would disclose the percent and size of core areas in each BMU.

   e) Once route closures to create core areas are established and effective, these core areas should remain in place for at least 10 years. Therefore, except for emergencies or other unforeseen circumstances requiring independent section 7 consultation, newly created core area shall not be entered for at least 10 years after creation.

   f) Roads that are closed, decommissioned, or barriered in the future to create core area would be put in a condition such that a need for motorized access for maintenance is not anticipated for at least 10 years. Until such closed roads are placed in the above- described condition, they would not be considered as contributing to core area.

2. Entering core area blocks for road decommissioning or stabilization activities:

   a) Without further section 7 consultation on grizzly bears, the Forest Service may affect underlying core area (i.e., any core habitat that is affected by the subject road and its buffer) within a BMU once per 10-year time frame, and not to exceed one bear year for the sole purpose of completing road decommissioning/stabilization activities on existing closed or barriered roads in core area habitat.

   b) Subsequent needs to re-enter individual core areas within a BMU more frequently than once per decade for the purposes of road decommissioning shall be handled on a case-by-case basis through standard section 7 consultation procedures. The effects of additional entries would be analyzed pursuant to such project level consultation. Pending the outcome of each analysis, additional measures to minimize potential effects to grizzly bears may be required.

3. Routine forest management may be proposed in a core area block after 10-years of core area benefit. However, BMUs must remain at or above the core standard. Therefore, potential losses to existing core must be compensated with in-kind replacement concurrently or prior to incurring the losses. Such in-kind replacement of core would be established within the affected BMU in accordance with the direction in Part I.B.1., above. For exceptions, see specialized circumstances outlined in Part I.D. concerning BMUs that exceed standards. Following management, core areas must subsequently be managed undisturbed for 10 years.

C. Parameters for BMUs currently not meeting core area, OMRD, and/or TMRD standards:

1. These BMUs are anticipated to be brought up to standards in the following manner: 33 percent of those BMUs currently not meeting one or more standard within each ecosystem are estimated to meet all standards within three years of the amendment decision date; 66 percent of those BMUs currently not meeting one or more standard within each ecosystem are estimated to meet all standards within 5 years of the amendment decision date, and 100 percent of those BMUs currently not meeting one or more standard within each ecosystem are estimated to meet all standards within eight years of the amendment decision date.

D. For those BMUs currently meeting or exceeding (being better than) the standards for core area:

1. Except as provided above for road stabilization projects, no reductions in core habitat without in-kind replacements would be proposed until all BMUs administered by the IPNF, KNF and LNF in the respective ecosystems are up to standard (table 25; which does not include the LeClerc BMU or the Idaho State Lands BMU in the Selkirk recovery zone).

2. Once all BMUs meet all standards then subsequent projects that propose to permanently reduce core area by roads shall undergo independent section 7 formal consultations.

3. Reductions of core area within individual BMUs shall not reduce the percent core area below the minimum standards for the affected BMU without compensating with in-kind replacement concurrently or prior to incurring the losses (see Part I.B.3.).

E. Road use associated with completing administrative activities:

1. In the Selkirk ecosystem (aka Selkirk recovery zone):

a) Administrative use shall not exceed 57 vehicle round trips per active bear year per road, apportioned as follows: ≤19 round trips in spring (April 1 through June15); ≤23 round trips in summer (June 16 through September 15); and ≤15 round trips in fall (September 16 through November 15).

b) If the number of trips exceeds 57 trips per active bear year in the Selkirk ecosystem, then that road would be considered "open" for analysis and reporting purposes. Likewise, if the number of trips exceeds the allowable ecosystem-specific seasonal (spring, summer, and fall) vehicle round trips per road, then that road would be considered "open" for analysis and reporting purposes.

2. In the Cabinet-Yaak ecosystem (aka Cabinet-Yaak recovery zone):

a) Administrative use shall not exceed 60 vehicle round trips per active bear year per road, apportioned as follows: ≤18 round trips in spring (April 1 through June15); ≤23 round trips in summer (June 16 through September 15); and ≤19 round trips in fall (September 16 through November 30).

b) If the number of trips exceeds 60 trips per active bear year in the Cabinet-Yaak ecosystem, then that road would be considered "open" for analysis and reporting purposes. Likewise, if the number of trips exceeds the allowable ecosystem-specific seasonal (spring, summer, and fall) vehicle round trips per road, then that road would be considered "open" for analysis and reporting purposes.

II. The following access management applies to seven grizzly bear recurring use areas (i.e., BORZ areas) located outside of the Cabinet-Yaak Grizzly Bear Recovery Zone (KNF and IPNFs) and Selkirk Grizzly Bear Recovery Zone (IPNFs):

A. The Forests shall ensure no increases in permanent linear miles of open road on National Forest System lands in any individual BORZ, above the baseline conditions identified in table 26, except in cases where the Forest Service lacks discretion to prevent road building across National Forest System lands due to legal or other obligations (examples include, but are not limited to, ANILCA claims, identification of RS2477 thoroughfares). Potential increases in linear miles of open roads must be compensated for with in-kind reductions in linear miles of open road concurrently with, or prior to, project implementation within the same BORZ. Temporary increases in linear miles of open roads are acceptable under the following conditions:

1. Roads that are closed to public motorized use or roads created or reconstructed to facilitate land management activities that are otherwise closed to public use may be "opened" to the public immediately following completion of all mechanized harvest and post-harvest slash activities requiring use of the road, to allow motorized public use during the bear summer season prior to the fall bear hunt (i.e., June 16 - August 31) for activities such as personal firewood collection. This public access would only be provided in cases where the mechanized harvest and/or post-harvest slash activities occurred during the same active bear year.

B. The Forest shall ensure no net permanent increases in linear miles of total roads in any individual BORZ area above the baseline conditions identified in table 26, except in cases where the Forest Service lacks discretion to prevent road building across National Forest System lands due to legal or other obligations (examples include, but are not limited to, ANILCA claims, identification of RS2477 thoroughfares, etc.). Otherwise, potential increases in linear miles of total roads must be compensated for with in-kind reductions in linear total road miles concurrently with, or prior to, new road construction or reconstruction of currently bermed or barriered roads. Temporary increases (not off-set) in linear miles of total roads are acceptable under the following conditions:

1. Temporary increases in linear miles of total roads are acceptable under the following conditions:

a. Newly constructed roads would be effectively gated and would be restricted with a CFR closure clarifying they are not open for public use.

b. These roads shall be closed immediately upon completion of activities requiring use of the road, except as described in Part II., A.1., above. Roads must be closed with a berm, guardrail or other measure that effectively prevents motorized access, and put in a condition such that a need for motorized access for maintenance is not anticipated for at least 10 years.

c. Upon completion of a land management project, linear miles of total roads would be returned to or below the baseline levels contained in table 26.

C. Timber harvest activities that would occur within multiple watersheds shall be scheduled such that disturbance of grizzly bears resulting from road use is minimized. The appropriate scale for scheduling harvest activities would be determined pursuant to project level consultation.

III. To ensure the effective implementation of the open road density parameter, at least 30 percent of closure devices (gates and barriers) would be monitored annually within the respective ecosystems. Monitoring techniques may include visual checks as well as road counters.

Table 26. Habitat Conditions for Bears Outside Recovery Zone (BORZ) Occupancy Areas as of Bear Year 2010[1, 2]

BORZ Name	Grizzly Bear Ecosystem	Total Size (Acres)	NFS Lands (Acres)	Total Linear Miles of Roads on NFS Lands	Total Linear Miles of Open Roads on NFS Lands
Priest	Selkirk	80,733	75,793	316.4	314.4
Pack River	Selkirk	33,869	28,097	41.9	37.9
Mission-Moyie	Cabinet-Yaak	71,545	58,472	200.3	167.3
Clark Fork	Cabinet-Yaak	101,899	100,421	256.1	176.9
Cabinet Face	Cabinet-Yaak	28,052	27,093	164.1	128.0
West Kootenai	Cabinet-Yaak	173,122	169,705	615.3	315.9
Tobacco	Cabinet-Yaak	287,240	266,947	1,123.9	867.0

[1] Table 16 in Appendix B of the Grizzly Bear Access Amendment ROD

[2] This data is reviewed annually. See the most recent Bear Year monitoring report for any updated baseline numbers

USFWS Biological Opinion Grizzly Bear Related Reporting Requirements

1. By April 15 each year, the Forests shall submit annual reports to the Service that detail the progress made toward achieving and maintaining the standards for Percent Core Area, OMRD, and TMRD within the Recovery Zones.

2. The Forests shall coordinate with state and federal agency biologists to collect credible grizzly bear observations that occur outside of the Recovery Zone boundaries and add this information to the 6th-order HUC database for inclusion into the annual report.

3. The annual report shall provide an ongoing list detailing the locations, dates, duration, and circumstances for invoking the allowance for entering core area for the purposes of road decommissioning or stabilizations.

USFWS Biological Opinion Terms and Conditions for Bull Trout

In order to be exempt from the prohibitions of section 9 of the Act, the Forests must comply with the following terms and conditions. These terms and conditions are non-discretionary.

1. The Forests should assure consistent implementation of measures and standards specified in the Aquatic Conservation strategies as indicated in the 1998 Biological Opinion for the Effects to Bull Trout from the Continued Implementation of Land and Resource Management Plans and Resource Management Plans as Amended by the Interim Strategies for Managing Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, Western Montana and portions of Nevada (INFISH).

2. The Forests should ensure that the watershed baselines are updated according to the INFISH Biological Opinion‘s Reasonable and Prudent Measure #2 (U.S. Fish and Wildlife Service 1998b). These baselines should be updated after every project requiring consultation which may affect them until the LRMP for each Forest is revised, or another analysis method is developed in conjunction with the Service.

3. The Forests should assume bull trout are present in a given watershed if it is connected to an area known to be occupied, unless site-specific information indicates otherwise. The Forests should

informally consult with the Service to determine the effects of proposed actions upon bull trout prior to initiating formal consultation and to ensure that the necessary site-specific information and technical data is provided in the baseline and effects analysis for biological assessments for the individual projects.

4. The Forests should integrate the value and risk to both bull trout and grizzly bears when deciding where to implement projects stemming from this proposed action. This action may entail increasing the priority for implementation of some BMUs.

5. In the course of planning projects to achieve the grizzly bear access standards, the Forests should conduct site-specific assessments of roads and road-crossings at the 6th code subwatershed scale to identify: road segments that are primary contributors of sediment or at risk of failure; stream crossings at risk of failure or that will not pass a 100-year flood event; culverts or other road crossings that act as fish barriers.

6. Assessments and corrective actions within any given BMU should follow the prioritization provided in this biological opinion, if practicable, unless new site-specific information changes the priority.

7. The Forests should ensure that all road features, particularly stream crossings on roads or any road that is closed by a barrier (i.e., not a gate) and is intended to be kept closed for at least 5 years is hydrologically neutral (as defined in subsequent project level consultations with the Service) and capable of passing at least a 100-year flood event with minimal erosion. Should the Forests decide to leave a culvert on a road blocked by a barrier, then that crossing should be capable of passing a 100-year event. Crossings that are barriers to fish passage should be removed, unless site-specific analysis contradicts such action. Roads that are intended to be kept closed for less than 5 years should be adequately stabilized so that maintenance is not expected to be required for the duration of the closure.

8. The Forests should minimize sediment input to the maximum extent practicable from culvert removals and subsequent streambed and streambank restoration activities by following all appropriate best management practices.

9. The Forests should, where practical, time culvert removals to coincide with low flow on perennial streams or no flow on intermittent streams to minimize sediment impacts to bull trout spawning activities and bull trout spawning and rearing habitat.

10. The placement of new roads and reopening of previously closed roads should be done in a manner to reduce or eliminate impacts to bull trout streams and critical habitat. The design of new or replaced culverts should be done in accordance with the Forest Service‘s Aquatic Organism Passage program, or other design criteria that ensure fish passage at the appropriate life stages.

11. Prior to closing a road by gate or barricade, the Forests should complete an inventory and risk assessment of individual stream crossing structures and features behind the proposed barrier and develop a monitoring plan based on the risk assessment. After closing, periodically monitor and inspect culvert stream crossings, bridges, fords, and other drainage features behind gated or barriered roads in bull trout watersheds which are subject to high erosion risk due to floods or peak storm events and/or are in close proximity to bull trout occupied streams or critical habitat.

Northern Rockies Lynx Management Direction

Northern Rockies lynx management direction (USDA Forest Service, 2007): ROD. USDA Forest Service, national forests in Montana and parts of Idaho, Wyoming, and Utah. See the Lynx Glossary for definitions, including those for Goals[14], Objectives[30], Standards[44], and Guidelines[15].

Goal

Conserve the Canada lynx.

All Management Practices and Activities (ALL)

The following objectives, standards, and guidelines apply to all management projects in lynx habitat in lynx analysis units (LAUs) in occupied habitat and in linkage areas, subject to valid existing rights. They do not apply to wildfire suppression, or to wildland fire use.

Objective ALL O1:

Maintain[**26**] or restore[**40**] lynx habitat[**23**] connectivity[**16**] in and between LAUs[**21**], and in linkage areas[22].

Standard ALL S1:

New or expanded permanent development[**33**] and vegetation management[**49**] projects[**36**] must maintain[**26**] habitat connectivity[**16**] in an LAU[**21**] and/or linkage area[**22**].

Guideline ALL G1:

Methods to avoid or reduce effects on lynx should be used when constructing or reconstructing highways[18] or forest highways[12] across federal land. Methods could include fencing, underpasses, or overpasses.

Standard LAU S1:

Changes in LAU[21] boundaries shall be based on site-specific habitat information and after review by the Forest Service Regional Office.

Vegetation Management Activities and Practices (VEG)

The following objectives, standards, and guidelines apply to vegetation management projects[36] in lynx habitat within lynx analysis units (LAUs) in occupied habitat. With the exception of Objective VEG O3 that specifically concerns wildland fire use, the objectives, standards, and guidelines do not apply to wildfire suppression, wildland fire use, or removal of vegetation for permanent developments such as mineral operations, ski runs, roads, and the like. None of the objectives, standards, or guidelines applies to linkage areas.

Objective VEG O1:

Manage vegetation[**49**] to mimic or approximate natural succession and disturbance processes while maintaining habitat components necessary for the conservation of lynx.

Objective VEG O2:

Provide a mosaic of habitat conditions through time that support dense horizontal cover[**19**], and high densities of snowshoe hare. Provide winter snowshoe hare habitat[**51**] in both the stand initiation structural stage and in mature, multi-story conifer vegetation.

Objective VEG O3:

Conduct fire use[11] activities to restore[40] ecological processes and maintain or improve lynx habitat.

Objective VEG O4:

Focus vegetation management[49] in areas that have potential to improve winter snowshoe hare habitat[51] but presently have poorly developed understories that lack dense horizontal cover.

Standard VEG S1:

Where and to what this applies: Standard VEG S1 applies to all vegetation management[49] projects[36] that regenerate[38] forests, except for fuel treatment[13] projects[36] within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a national forest). In addition, fuel treatment projects may not result in more than three adjacent LAUs exceeding the standard.

For fuel treatment projects[36] within the WUI[50] see guideline VEG G10.

The Standard: Unless a broad scale assessment has been completed that substantiates different historic levels of stand initiation structural stages[45] limit disturbance in each LAU as follows:

If more than 30 percent of the lynx habitat in an LAU is currently in a stand initiation structural stage that does not yet provide winter snowshoe hare habitat, no additional habitat may be regenerated by vegetation management projects[36].

Standard VEG S2:

Where and to what this applies: Standard VEG S2 applies to all timber management[47] projects[36] that regenerate[38] forests, except for fuel treatment[13] projects[36] within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a national forest).

For fuel treatment projects[36] within the WUI[50] see guideline VEG G10.

The Standard: Timber management[47] projects[36] shall not regenerate[38] more than 15 percent of lynx habitat on NFS lands within an LAU in a ten-year period.

Standard VEG S5:

Where and to what this applies: Standard VEG S5 applies to all precommercial thinning[35] projects[36], except for fuel treatment[13] projects[36] that use precommercial thinning as a tool within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a national forest).

For fuel treatment projects[36] within the WUI[50] see guideline VEG G10.

The Standard: Precommercial thinning projects[36] that reduce snowshoe hare habitat may occur from the stand initiation structural stage[45] until the stands no longer provide winter snowshoe hare habitat only:

1. Within 200 feet of administrative sites, dwellings, or outbuildings; or
2. For research studies[39] or genetic tree tests evaluating genetically improved reforestation stock; or
3. Based on new information that is peer reviewed and accepted by the regional level of the Forest Service, and state level of FWS, where a written determination states:
   a) that a project[36] is not likely to adversely affect lynx; or
   b) that a project[36] is likely to have short term adverse effects on lynx or its habitat, but would result in long-term benefits to lynx and its habitat; or
4. For conifer removal in aspen, or daylight thinning[5] around individual aspen trees, where aspen is in decline; or
5. For daylight thinning of planted rust-resistant white pine where 80 percent of the winter snowshoe hare habitat[51] is retained; or
6. To restore whitebark pine.

Exceptions 2 through 6 shall only be utilized in LAUs where Standard VEG S1 is met.

Standard VEG S6:

Where and to what this applies: Standard VEG S6 applies to all vegetation management[49] projects[36] except for fuel treatment[13] projects[36] within the wildland urban interface[50] (WUI) as defined by HFRA[17], subject to the following limitation:

Fuel treatment projects[36] within the WUI[50] that do not meet Standards VEG S1, VEG S2, VEG S5, and VEG S6 shall occur on no more than 6 percent (cumulatively) of lynx habitat on each administrative unit (a unit is a national forest).

For fuel treatment projects[36] within the WUI[50] see guideline VEG G10.

The Standard: Vegetation management projects[36] that reduce snowshoe hare habitat in multi-story mature or late successional forests[29] may occur only:

1. Within 200 feet of administrative sites, dwellings, outbuildings, recreation sites, and special use permit improvements, including infrastructure within permitted ski area boundaries; or
2. For research studies[39] or genetic tree tests evaluating genetically improved reforestation stock; or
3. For incidental removal during salvage harvest[42] (e.g., removal due to location of skid trails).

Exceptions 2 and 3 shall only be utilized in LAUs where Standard VEG S1 is met.

(NOTE: Timber harvest is allowed in areas that have potential to improve winter snowshoe hare habitat but presently have poorly developed understories that lack dense horizontal cover (i.e., uneven age management systems could be used to create openings where there is little understory so that new forage can grow).

Guideline VEG G1:

Vegetation management[49] projects[36] should be planned to recruit a high density of conifers, hardwoods, and shrubs where such habitat is scarce or not available. Priority for treatment should be given to stem-exclusion, closed-canopy structural stage[46] stands to enhance habitat conditions for lynx or their prey (e.g., mesic, monotypic lodgepole stands). Winter snowshoe hare habitat[51] should be near denning habitat[6].

Guideline VEG G4:

Prescribed fire[34] activities should not create permanent travel routes that facilitate snow compaction. Constructing permanent firebreaks on ridges or saddles should be avoided.

Guideline VEG G5:

Habitat for alternate prey species, primarily red squirrel[37], should be provided in each LAU.

Guideline VEG G10:

Fuel treatment projects[36] within the WUI[50] as defined by HFRA[17] should be designed considering Standards VEG S1, S2, S5, and S6 to promote lynx conservation.

Guideline VEG G11:

Denning habitat[6] should be distributed in each LAU in the form of pockets of large amounts of large woody debris, either down logs or root wads, or large piles of small wind thrown trees ("jack-strawed" piles). If denning habitat appears to be lacking in the LAU, then projects[36] should be designed to retain some coarse woody debris[4], piles, or residual trees to provide denning habitat[6] in the future.

Livestock Management (GRAZ)

The following objectives and guidelines apply to grazing projects in lynx habitat in lynx analysis units (LAUs) in occupied habitat. They do not apply to linkage areas.

Objective GRAZ O1:

Manage livestock grazing to be compatible with improving or maintaining[26] lynx habitat[23].

Guideline GRAZ G1:

In fire- and harvest-created openings, livestock grazing should be managed so impacts do not prevent shrubs and trees from regenerating.

Guideline GRAZ G2:

In aspen stands, livestock grazing should be managed to contribute to the long-term health and sustainability of aspen.

Guideline GRAZ G3:

In riparian areas[41] and willow carrs[3], livestock grazing should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.

Guideline GRAZ G4:

In shrub-steppe habitats[43], livestock grazing should be managed in the elevation ranges of forested lynx habitat in LAUs[21], to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

Human Use Projects (HU)

The following objectives and guidelines apply to human use projects, such as special uses (other than grazing), recreation management, roads, highways, and mineral and energy development, in lynx habitat in lynx analysis units (LAUs) in occupied habitat, subject to valid existing rights. They do not apply to vegetation management projects or grazing projects directly. They do not apply to linkage areas.

Objective HU O1:

Maintain**[26]** the lynx's natural competitive advantage over other predators in deep snow, by discouraging the expansion of snow-compacting activities in lynx habitat**[23]**.

Objective HU O2:

Manage recreational activities to maintain lynx habitat and connectivity[16].

Objective HU O3:

Concentrate activities in existing developed areas, rather than developing new areas in lynx habitat.

Objective HU O4:

Provide for lynx habitat needs and connectivity when developing new or expanding existing developed recreation**[9]** sites or ski areas.

Objective HU O5:

Manage human activities, such as special uses, mineral and oil and gas exploration and development, and placement of utility transmission corridors, to reduce impacts on lynx and lynx habitat.

Objective HU O6:

Reduce adverse highway**[18]** effects on lynx by working cooperatively with other agencies to provide for lynx movement and habitat connectivity**[16]**, and to reduce the potential of lynx mortality.

Guideline HU G1:

When developing or expanding ski areas, provisions should be made for adequately sized inter-trail islands that include coarse woody debris**[4]**, so winter snowshoe hare habitat**[51]** is maintained.

Guideline HU G2:

When developing or expanding ski areas, lynx foraging habitat should be provided consistent with the ski area's operational needs, especially where lynx habitat occurs as narrow bands of coniferous forest across mountain slopes.

Guideline HU G3:

Recreation developments and operations should be planned in ways that both provide for lynx movement and maintain the effectiveness of lynx habitat**[23]**.

Guideline HU G4:

For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction.

Guideline HU G5:

For mineral and energy development sites and facilities that are closed, a reclamation plan that restores[40] lynx habitat should be developed.

Guideline HU G6:

Methods to avoid or reduce effects on lynx should be used in lynx habitat[23] when upgrading unpaved roads to maintenance levels 4 or 5, if the result would be increased traffic speeds and volumes, or a foreseeable contribution to increases in human activity or development.

Guideline HU G7:

New permanent roads should not be built on ridge-tops and saddles, or in areas identified as important for lynx habitat connectivity[16]. New permanent roads and trails should be situated away from forested stringers.

Guideline HU G8:

Cutting brush along low-speed[25], low-traffic-volume roads should be done to the minimum level necessary to provide for public safety.

Guideline HU G9:

On new roads built for projects[36], public motorized use should be restricted. Effective closures should be provided in road designs. When the project[36] is over, these roads should be reclaimed or decommissioned, if not needed for other management objectives.

Guideline HU G10:

When developing or expanding ski areas and trails, consider locating access roads and lift termini to maintain and provide lynx security habitat[10], if it has been identified as a need.

Guideline HU G11:

Designated over-the-snow routes or designated play areas should not expand outside baseline areas of consistent snow compaction[1], unless designation serves to consolidate use and improve lynx habitat. This may be calculated on an LAU basis, or on a combination of immediately adjacent LAUs.

This does not apply inside permitted ski area boundaries, to winter logging, to rerouting trails for public safety, to accessing private inholdings, or to access regulated by guideline HU G12.

Use the same analysis boundaries for all actions subject to this guideline.

Guideline HU G12:

Winter access for non-recreation special uses and mineral and energy exploration and development, should be limited to designated routes8 or designated over-the-snow routes[7].

Linkage Areas (LINK)

The following objective, standard, and guidelines apply to all projects within linkage areas in occupied habitat, subject to valid existing rights.

Objective LINK O1:

In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.

Standard LINK S1:

When highway[18] or forest highway[12] construction or reconstruction is proposed in linkage areas[22], identify potential highway crossings.

Guideline LINK G1:

NFS lands should be retained in public ownership.

Guideline LINK G2:

Livestock grazing in shrub-steppe habitats[43] should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages[28], similar to conditions that would have occurred under historic disturbance regimes.

Required Monitoring

Map the location and intensity of snow compacting activities and designated and groomed routes that occurred inside LAUs during the period of 1998 to 2000. The mapping is to be completed within one year of this decision, and changes in activities and routes are to be monitored every five years after the decision.

When project decisions are signed report the following:

1. Fuel treatments:
   a) Acres of fuel treatment in lynx habitat by forest and LAU, and whether the treatment is within or outside the WUI as defined by HFRA.
   b) Whether or not the fuel treatment met the vegetation standards or guidelines. If standard(s) are not met, report which standard(s) are not met why they were not met, and how many acres were affected.
   c) Whether or not 2 adjacent LAUs exceed standard VEG S1 (30% in a stand initiation structural stage that is too short to provide winter snowshoe hare habitat), and what event(s) or action(s) caused the standard to be exceeded.

2. Application of exception in Standard VEG S5
   a) For areas where any of the exemptions 1 through 6 listed in Standard VEG S5 were applied: Report the type of activity, the number of acres, and the location (by unit, and LAU) and whether or not Standard VEG S1 was within the allowance.

IV. Application of exceptions in Standard VEG S6
   a) For areas where any of the exemptions 1 through 3 listed in Standard VEG S6 were applied: Report the type of activity, the number of acres, and the location (by unit, and LAU) and whether or not Standard VEG S1 was within the allowance.

V. Application of guidelines
   a) Document the rationale for deviations to guidelines. Summarize what guideline(s) was not followed and why.

Directions in italics were terms and conditions that were incorporated from the FWS Biological Opinion (USDI FWS 2007).

Lynx Glossary

[1] **Area of Consistent Snow Compaction –** An area of consistent snow compaction is an area of land or water that during winter is generally covered with snow and gets enough human use that individual tracks are indistinguishable. In such places, compacted snow is evident most of the time, except immediately after (within 48 hours) snowfall. These can be areas or linear routes, and are generally found in or near snowmobile or cross-country ski routes, in adjacent openings, parks and meadows, near ski huts or plowed roads, or in winter parking areas. Areas of consistent snow compaction will be determined based on the acreage or miles used during the period 1998 to 2000.

[2] **Broad Scale Assessment –** A broad scale assessment is a synthesis of current scientific knowledge, including a description of uncertainties and assumptions, to provide an understanding of past and present conditions and future trends, and a characterization of the ecological, social, and economic components of an area. (LCAS)

[3] **Carr –** Deciduous woodland or shrub land occurring on permanently wet, organic soil. (LCAS)

[4] **Course Woody Debris –** Any piece(s) of dead woody material (e.g., dead boles, limbs, and large root masses on the ground or in streams). (LCAS)

[5] **Daylight Thinning –** Daylight thinning is a form of precommercial thinning that removes the trees and brush inside a given radius around a tree.

[6] **Denning Habitat (lynx) –** Denning habitat is the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning habitat must be within daily travel distance of winter snowshoe hare habitat – the typical maximum daily distance for females is about three to six miles. Denning habitat includes mature and old growth forests with plenty of coarse woody debris. It can also include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed.

[7] **Designated Over-the-Snow Routes –** Designated over-the-snow routes are routes managed under permit or agreement or by the agency, where use is encouraged, either by on-the-ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps), or in electronic media produced or approved by the agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition. The determination of baseline snow compaction will be based on the miles of designated over-the-snow routes authorized, promoted or encouraged during the period 1998 to 2000.

[8] **Designated Route –** A designated route is a road or trail that has been identified as open for specified travel use.

[9] **Developed Recreation –** Developed recreation requires facilities that result in concentrated use. For example, skiing requires lifts, parking lots, buildings, and roads; campgrounds require roads, picnic tables, and toilet facilities.

[10] **Security Habitat (lynx) –** Security habitat amounts to places in lynx habitat that provide secure winter bedding sites for lynx in highly disturbed landscapes like ski areas. Security habitat gives lynx the ability to retreat from human disturbance. Forest structures that make human access difficult generally discourage human activity in security habitats. Security habitats are most effective if big enough to provide visual and acoustic insulation and to let lynx easily move away from any intrusion. They must be close to winter snowshoe hare habitat. (LCAS)

[11] **Fire Use –** Fire use is the combination of wildland fire use and using prescribed fire to meet resource objectives. (NIFC) Wildland fire use is the management of naturally ignited wildland fires to accomplish resource management objectives in areas that have a fire management plan. The use of the term wildland fire use replaces the term prescribed natural fire. (Wildland and Prescribed Fire Management Policy, August 1998)

[12] **Forest Highway –** A forest highway is a forest road under the jurisdiction of, and maintained by, a public authority and open to public travel (USC: Title 23, Section 101(a)), designated by an agreement with the FS, state transportation agency, and Federal Highway Administration.

[13] **Fuel Treatment –** A fuel treatment is a type of vegetation management action that reduces the threat of ignition, fire intensity, or rate of spread, or is used to restore fire-adapted ecosystems.

[14]**Goal –** A goal is a broad description of what an agency is trying to achieve, found in a land management plan. (LCAS)

[15] **Guideline –** A guideline is a particular management action that should be used to meet an objective found in a land management plan. The rationale for deviations may be documented, but amending the plan is not required. (LCAS modified)

[16] **Habitat Connectivity (lynx) –** Habitat connectivity consists of an adequate amount of vegetation cover arranged in a way that allows lynx to move around. Narrow forested mountain ridges or shrub-steppe plateaus may serve as a link between more extensive areas of lynx habitat; wooded riparian areas may provide travel cover across open valley floors. (LCAS)

[17] **HFRA (Healthy Forests Restoration Act) –** Public Law 108-148, passed in December 2003. The HFRA provides statutory processes for hazardous fuel reduction projects on certain types of at-risk National Forest System and Bureau of Land Management lands. It also provides other authorities and direction to help reduce hazardous fuel and restore healthy forest and rangeland conditions on lands of all ownerships. (Modified from Forest Service HFRA web site)

[18] **Highway –** The word highway includes all roads that are part of the National Highway System. (23 CFR 470.107(b))

[19] **Horizontal Cover –** Horizontal cover is the visual obscurity or cover provided by habitat structures that extend to the ground or snow surface primarily provided by tree stems and tree boughs, but also includes herbaceous vegetation, snow, and landscape topography.

[20] **Isolated Mountain Range –** Isolated mountain ranges are small mountains cut off from other mountains and surrounded by flatlands. On the east side of the Rockies, they are used for analysis instead of sub-basins. Examples are the Little Belts in Montana and the Bighorns in Wyoming.

[21] **LAU (Lynx Analysis Unit) –** An LAU is an area of at least the size used by an individual lynx, from about 25 to 50 square miles (LCAS). An LAU is a unit for which the effects of a project would be analyzed; its boundaries should remain constant.

[22] **Linkage area –** A linkage area provides connectivity between blocks of lynx habitat. Linkage areas occur both within and between geographic areas, where basins, valleys, or agricultural lands separate blocks of lynx habitat, or where lynx habitat naturally narrows between blocks. (LCAS updated definition approved by the Steering Committee 10/23/01)

[23] **Lynx Habitat –** Lynx habitat occurs in mesic coniferous forest that experience cold, snowy winters and provide a prey base of snowshoe hare. In the northern Rockies, lynx habitat generally occurs between

3,500 and 8,000 feet of elevation, and primarily consists of lodgepole pine, subalpine fir, and Engelmann spruce. It may consist of cedar-hemlock in extreme northern Idaho, northeastern Washington and northwestern Montana, or of Douglas-fir on moist sites at higher elevations in central Idaho. It may also consist of cool, moist Douglas-fir, grand fir, western larch and aspen when interspersed in subalpine forests. Dry forests do not provide lynx habitat. (LCAS)

[24] **Lynx Habitat in an Unsuitable Condition –** Lynx habitat in an unsuitable condition consists of lynx habitat in the stand initiation structural stage where the trees are generally less than ten to 30 years old and have not grown tall enough to protrude above the snow during winter. Stand replacing fire or certain vegetation management projects can create unsuitable conditions. Vegetation management projects that can result in unsuitable habitat include clearcuts and seed tree harvest, and sometimes shelterwood cuts and commercial thinning depending on the resulting stand composition and structure. (LCAS)

[25] **Low-speed, Low-traffic-volume Road –** Low speed is less than 20 miles per hour; low volume is a seasonal average daily traffic load of less than 100 vehicles per day.

[26] **Maintain –** In the context of this decision, maintain means to provide enough lynx habitat to conserve lynx. It does not mean to keep the status quo.

[27] **Maintenance Level –** Maintenance levels define the level of service provided by and maintenance required for a road. (FSH 7709.58, Sec 12.3) Maintenance level 4 is assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most level 4 roads have double lanes and an aggregate surface. Some may be single lane; some may be paved or have dust abated. Maintenance level 5 is assigned to roads that provide a high degree of user comfort and convenience. Normally, level 5 roads are have double lanes and are paved, but some may be aggregate surfaced with the dust abated.

[28] **Mid-seral or later –** Mid-seral is the successional stage in a plant community that is the midpoint as it moves from bare ground to climax. For riparian areas, it means willows or other shrubs have become established. For shrub-steppe areas, it means shrubs associated with climax are present and increasing in density.

[29] **Multi-story Mature or Late Successional Forest –** This stage is similar to the old multistory structural stage (see below). However, trees are generally not as old, and decaying trees may be somewhat less abundant.

[30] **Objective –** An objective is a statement in a land management plan describing desired resource conditions and intended to promote achieving programmatic goals. (LCAS)

[31] **Old Multistory Structural Stage –** Many age classes and vegetation layers mark the old forest, multistoried stage. It usually contains large old trees. Decaying fallen trees may be present that leave a discontinuous overstory canopy. On cold or moist sites without frequent fires or other disturbance, multi-layer stands with large trees in the uppermost layer develop. (Oliver and Larson, 1996)

[32] **Old Growth –** Old growth forests generally contain trees that are large for their species and the site, and are sometimes decadent with broken tops. Old growth often contains a variety of tree sizes, large snags, and logs, and a developed and often patchy understory.

[33] **Permanent Development –** A permanent development is any development that results in a loss of lynx habitat for at least 15 years. Ski trails, parking lots, new permanent roads, structures, campgrounds, and many special use developments would be considered permanent developments.

[34] **Prescribed Fire –** A prescribed fire is any fire ignited as a management action to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements met, before ignition. The term prescribed fire replaces the term management ignited prescribed fire. (NWCG)

[35] **Precommercial Thinning –** Precommercial thinning is mechanically removing trees to reduce stocking, concentrate growth on the remaining trees, and not resulting in immediate financial return. (Dictionary of Forestry)

[36] **Project –** All, or any part or number of the various activities analyzed in an Environmental Impact Statement, Environmental Analysis, or Decision Memo. For example, the vegetation management in some units or stands analyzed in an EIS could be for fuel reduction, and therefore those units or stands would fall within the term fuel treatment project even if the remainder of the activities in the EIS are being conducted for other purposes, and the remainder of those units or stands have other activities prescribed in them. All units in an analysis do not necessarily need to be for fuel reduction purposes for certain units to be considered a fuel reduction project.

[37] **Red Squirrel Habitat –** Red squirrel habitat consists of coniferous forests of seed and cone-producing age that usually contain snags and downed woody debris, generally associated with mature or older forests.

[38] **Regeneration Harvest –** The cutting of trees and creating an entire new age class; an even-age harvest. The major methods are clearcutting, seed tree, shelterwood, and group selective cuts. (Helms 1998)

[39] **Research –** Research consists of studies conducted to increase scientific knowledge or technology. For the purposes of standards VEG S5 and VEG S6, research applies to studies financed from the forest research budget (FSM 4040) and administrative studies financed from the NF budget.

[40] **Restore Restoration –** To restore is to return or re-establish ecosystems or habitats to their original structure and species composition. (Dictionary of Forestry)

[41] **Riparian Area –** An area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation. (LCAS)

[42] **Salvage Harvest –** Salvage harvest is a commercial timber sale of dead, damaged, or dying trees. It recovers economic value that would otherwise be lost. Collecting firewood for personal use is not considered salvage harvest.

[43] **Shrub Steppe Habitat –** Shrub steppe habitat consists of dry sites with shrubs and grasslands intermingled.

[44] **Standard –** A standard is a required action in a land management plan specifying how to achieve an objective or under what circumstances to refrain from taking action. A plan must be amended to deviate from a standard.

[45] **Stand Initiation Structural Stage –** The stand initiation stage generally develops after a stand-replacing disturbance by fire or regeneration timber harvest. A new single-story layer of shrubs, tree seedlings, and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands. (Oliver and Larson, 1996)

[46] **Stem Exclusion Structural Stage (Closed canopy structural stage) –** In the stem exclusion stage, trees initially grow fast and quickly occupy all of the growing space, creating a closed canopy. Because the trees are tall, little light reaches the forest floor so understory plants (including smaller trees) are

shaded and grow more slowly. Species that need full sunlight usually die; shrubs and herbs may become dormant. New trees are precluded by a lack of sunlight or moisture. (Oliver and Larson, 1996)

[47] **Timber Management –** Timber management consists of growing, tending, commercially harvesting, and regenerating crops of trees.

[48] **Understory Re-initiation Structural Stage –** In the understory re-initiation stage, a new age class of trees gets established after overstory trees begin to die, are removed, or no longer fully occupy their growing space after tall trees abrade each other in the wind. Understory seedlings then re-grow and the trees begin to stratify into vertical layers. A low to moderately dense uneven-aged overstory develops, with some small shade-tolerant trees in the understory. (Oliver and Larson, 1996)

[49] **Vegetation Management –** Vegetation management changes the composition and structure of vegetation to meet specific objectives, using such means as prescribed fire or timber harvest. For the purposes of this decision, the term does not include removing vegetation for permanent developments like mineral operations, ski runs, roads and the like, and does not apply to fire suppression or to wildland fire use.

[50] **Wildland Urban Interface (WUI) –** Use the definition of WUI found in the Healthy Forests Restoration Act. The full text can be found at HFRA § 101. Basically, the wildland urban interface is the area adjacent to an at-risk community that is identified in the community wildfire protection plan. If there is no community wildfire protection plan in place, the WUI is the area 0.5 mile from the boundary of an at-risk community; or within 1.5 miles of the boundary of an at-risk community if the terrain is steep, or there is a nearby road or ridgetop that could be incorporated into a fuel break, or the land is in condition class 3, or the area contains an emergency exit route needed for safe evacuations. (Condensed from HFRA, for full text see HFRA § 101.)

[51] **Winter Snowshoe Hare Habitat –** Winter snowshoe hare habitat consists of places where young trees or shrubs grow densely – thousands of woody stems per acre – and tall enough to protrude above the snow during winter, so snowshoe hare can browse on the bark and small twigs (LCAS). Winter snowshoe hare habitat develops primarily in the stand initiation, understory reinitiation and old forest multistoried structural stages.

Appendix C—Summary of the Analysis of the Management Situation

In the spring of 2002, the Forest Service announced the revision of the Kootenai and Idaho Panhandle National Forests land management plans. The Analysis of the Management Situation (AMS) and AMS Technical Report were released to the public in March 2003. The AMS and AMS Technical Report described the historic and current conditions for the Kootenai and Idaho Panhandle Planning Zone (KIPZ) and established the need for revising management direction for seven revision topics. These seven revision topics were identified through monitoring and evaluation, current science and assessments and through daily contacts with people who work in and recreate on the national forest. The revision topics include: Vegetation, Fire Risk, Timber Production, Wildlife, Watersheds and Aquatic Species, Inventoried Roadless Areas, Recommended Wilderness Areas, and Access and Recreation. The revision topics are broad categorizations of the issues that have been identified where resource conditions, technical knowledge, or public perception of resource management has created a potential "need for change."

In 2006, the KIPZ released for public review and comment, a draft Comprehensive Evaluation Report (CER) along with the proposed Plans for both Forests. The CER was developed as a requirement under the 2005 (and 2008) Planning Rule and was intended to be a part of the Plan Set of Documents for each Forest Plan. The 2006 draft CER included the analysis and evaluation of conditions and trends for both Forests under the existing Plans, and supplemented the AMS in documenting the need for changing the 1987 Forest Plans. The CER described the conditions and trends from proposed changes to both Forests Plans and described the probability of meeting the desired conditions in the 2006 Proposed Plans. The CER incorporated by reference the AMS and AMS Technical Report. It presented each revision topic and documented additional or updated information to the AMS and Technical Report.

Additional topics, not identified as primary revision topics, were identified to be addressed in the Forest Plan but did not meet the criteria for the main revision topics. In general, these additional topics represent inadequate or outdated Forest Plan direction; however, addressing these topics would not necessarily require a significant amendment to the Forest Plan. The additional topics include: Minerals, Designated Wilderness Management and Wilderness Study Areas, Facilities, Research Natural Areas (RNAs), Cultural Resources, Scenery Management, Lands, Special Areas (SAs), Wild and Scenic Rivers, and Range.

Following is a brief summary of the demand and supply conditions for production potentials, use, and opportunities for resources that are applicable to the revision topics. This analysis provides the sideboards or decision space used in developing alternatives for the Environmental Impact Statement (EIS).

Vegetation Treatment and Wildlife Habitat

Moving vegetation towards desired future conditions contributes to sustainable and resilient vegetation and habitat. Vegetation conditions are dynamic and change over time based on succession and disturbance. Management actions can aide in moving vegetation towards desired condition. Vegetation treatments such as timber harvest and prescribed burning provide opportunities to change the trajectory for vegetation and move it closer to desired conditions.

Modeling vegetation treatments tracks changes in vegetation over time and analyzes movement towards desired future conditions. The model runs with an objective to move vegetation towards desired condition. Acres that are not within desired conditions generate penalty points. The goal of each run is to minimize these penalty points (i.e., minimize land outside of desired conditions). Two benchmarks were run to analyze the effects of maximum or minimum management on vegetation condition. A benchmark where no management was allowed had the maximum penalty points for not achieving desired condition at more than 73,500,000 points. The benchmark where all lands suitable for timber production were

managed resulted in 15,000,000 points or about an 80 percent reduction in penalties. These benchmarks did not include constraints for wildlife, watershed, operational limitations, or budget. Under this Forest Plan, the penalties for not achieving desired condition are at 28,400,000 points. Movement towards desired condition under the Forest Plan is an improvement over no management, but not as great as if all suitable lands were managed.

Recreation

A wide variety of recreation opportunities are offered on the Kootenai National Forest (KNF), with an emphasis on dispersed recreation. There are 93,700 acres of designated Wilderness and an additional 639,100 acres of Inventoried Roadless Areas. There are 1,400 miles of trails, most of which are available to hikers, horseback riders, and mountain bikers. Almost 11 percent of the trails are also available for motorized use. Nearly 45 percent of approximately 7,900 miles of roads are open to motorized public use. There are 21 developed and 14 dispersed campgrounds. A ski area and several areas for backcountry cross-country skiing are also located on the KNF.

The majority of recreation on the KNF is dispersed, meaning it does not rely on or concentrate around constructed facilities. Based on National Visitor Use Monitoring, recreation use in 2007 was estimated at 919,300 visits. The majority of this (more than 80 percent) was dispersed use. Demand for both dispersed and developed recreation is expected to continue growing at 13 percent per decade, based on projected population growth over the next 10 years in the western U.S. (2000 U.S. Census data, Population Projections table 6). The KNF has the capacity to support demand for developed and dispersed activities for at least the next 50 years.

Demand for wilderness recreation experiences, based on visitation only, is currently about 12,000 visits (USDA, 2009). Demand for wilderness recreation is also expected to continue growing at 13 percent per decade. Demand for wilderness based on ecological and societal need is more difficult to quantify as it applies to a single forest, but is addressed by the Region 1 Wilderness Needs Assessment (USDA, 2003). This Forest Plan identifies 112,800 acres of Recommended Wilderness.

Timber Production

The timber demand was derived using a capacity and capability analysis for the Forest. This analysis was conducted by the University of Montana's Bureau of Business and Economic Research, resulting in a report prepared for the KNF (Keegan et al., 2005). Virtually all of the KNF non-reserved timberland is located in two Montana counties: Lincoln and Sanders. More than 35 percent of the recent (1998) timber harvest in this two-county area originated from the KNF.

The KNF identified a five-county area as the "Kootenai National Forest Impact Zone." The counties comprising the Kootenai National Forest Impact Zone are Bonner and Boundary counties in Idaho; and Flathead, Lincoln, and Sanders counties in Montana. As of September 1, 2005, capacity to process timber in the Kootenai National Forest Impact Zone is 191,020 thousand cubic feet (MCF), with slightly less than 78 percent of capacity being used. Mills in the Kootenai National Forest Impact Zone are currently using about 148,899 MCF of timber annually. Slightly less than 87 percent (129,209 MCF) of the volume processed in the Impact Zone is composed of trees with diameter at breast height (DBH) greater than or equal to 10 inches. Nearly 13 percent (18,977 MCF) of the volume processed comes from trees 7.0–9.9 inches DBH, while less than 1 percent (714 MCF) of processed volume comes from trees less than 7 inches DBH.

The capacity and capability analysis indicates there is not much of a market for the small diameter trees (less than 7 inches DBH). There is strong demand for larger trees (greater than 10 inches DBH).

From 1988 to 2009, the KNF sold an average of 83.1 MMBF (16,600 MCF) annually. The amount of timber sold has declined from the mid-1990s, from a high of 203 MMBF in 1992 to a low of 24 MMBF in 2003, with an average of 44.4 MMBF/year (8,900 MCF/year) over the past 5 years.

Under this Forest Plan, approximately 791,400 acres are suitable for timber production. The allowable sale quantity (ASQ) from the lands suitable for timber production is 70.2 MMBF (13.2 MMCF) for the first decade with a long-term sustained yield capacity of 16.7 MMCF. The predicted timber volume sold from suitable lands under this Forest Plan, given current budget levels, is 47.5 MMBF (8.7 MMCF) for the first decade.

Appendix D—KNF Designated Utility Rights-of-Way Corridors, Communication Sites, and Areas Withdrawn from Mineral Entry

Table 27. Designated Utility Rights-of-Way Corridors in the KNF

Corridor Name	Authorized User
Cabinet – Noxon	Avista
Cabinet – Rathdrum	Avista
Noxon – Hot Springs	Avista
Noxon – Pine Creek	Avista
Bonners Ferry – Troy No. 1	BPA [1]
Troy – Libby	BPA
Columbia Falls – Trego No. 1	BPA
Lancaster – Noxon No. 1	BPA
Libby – Conkelly No. 1	BPA
Libby – Libby (Pacific Power and Light) No. 1	BPA
Libby PH – Libby No. 1	BPA
Libby PH – Libby No.2	BPA
Noxon – Hot Springs No. 1	BPA
Noxon – Libby No. 1	BPA
Montanore	[2]
Rock Creek	[2]

Note: Includes corridors that only partially cross NFS lands

[1] Bonneville Power Administration

[2] Dependent on final authorization

Table 28. Designated Communication Sites on the KNF

Communication Site Name	Location (District)	Status	Designated For	Restrictions
Berray Mountain	Cabinet	New	Pending NEPA	
Black Butte	Rexford	Existing	Non-broadcast	
Blue Mountain	Libby	Existing	Non-broadcast	
Calx Mountain	Libby	Existing	Non-broadcast	
Eighty Peak	Cabinet	Existing	Non-broadcast	Gov't Use Only
Flower Point	Libby	Existing	Non-broadcast	
Garver Mountain	Three Rivers	New	Pending NEPA	
Government Mountain	Cabinet	Existing	Non-broadcast	Gov't Use Only
Green Mountain	Cabinet	Existing	Broadcast, Non-broadcast	
Horse Mountain	Libby	New	Pending NEPA	
Indianhead Mountain	Libby	Existing	Broadcast	

Communication Site Name	Location (District)	Status	Designated For	Restrictions
King Mountain	Three Rivers	Existing	Broadcast, Non-broadcast	
Lost Horse Mountain	Rexford	New	Pending NEPA	
Meadow Peak	Libby	Existing	Non-broadcast	
Minton Peak	Cabinet	New	Pending NEPA	
Mt. Baldy	Three Rivers	Existing	Non-broadcast	
Mt. Henry	Three Rivers	Existing	Non-broadcast	Gov't Use Only
Mt. Marston	Fortine	New	Non-broadcast	
Pinkham Mountain	Rexford	Existing	Non-broadcast	
Preacher Mountain	Three Rivers	Existing	Non-broadcast	
Sheldon Mountain	Libby	Existing	Broadcast, Non-broadcast	
Smith Mountain	Three Rivers	New	Pending NEPA	
Stahl Peak	Fortine	New	Pending NEPA	
Swede Mountain	Libby	Existing	Broadcast	
Tony Peak	Libby	Existing	Non-broadcast	
Turner Mountain	Libby	New	Pending NEPA	
Webb Mountain	Rexford	Existing	Non-broadcast	Gov't Use Only
Ziegler Mountain	Rexford	New	Pending NEPA	

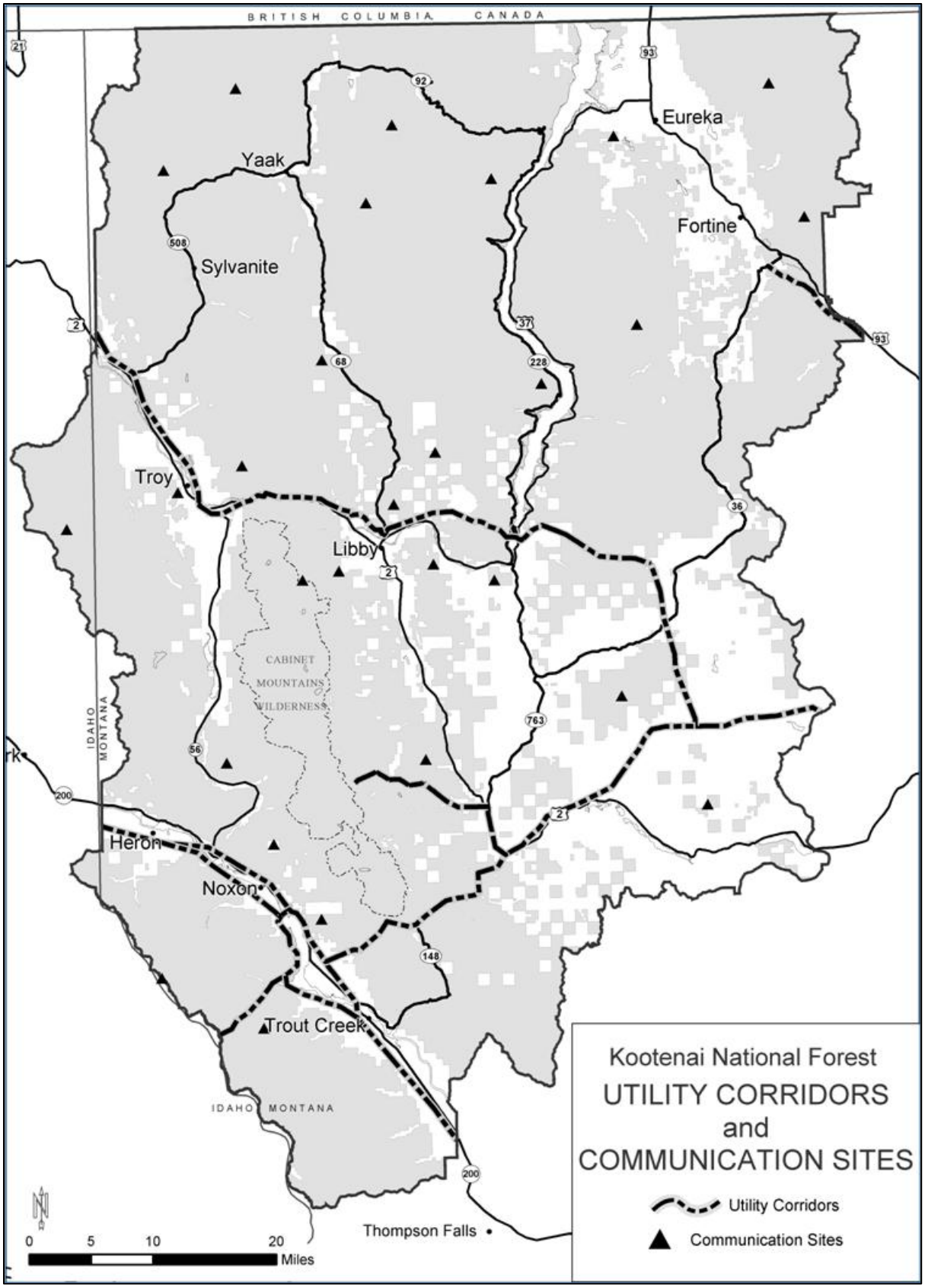


Figure 18. Designated Utility Rights-of-Way Corridors and Communication Sites on the KNF

Minerals

Table 29. Lands Withdrawn from Mineral Entry on the KNF

Name	Township (T), Range (R), Section (Sec.)	Acres
Ant Flat Admin. Site	T34N R25W Sec 7	80
Bad Medicine Rec. Area	T28N R33W Sec 4	37.46
Baldy Mountain Lookout	T35N R33W Sec 6	10
Big Bend Admin. Site	T30N R29W Sec 8	160
Big Creek Rec. Area	T34N R29W Sec 2	10
Big Eddy Rec. Area.	T27N R34W Sec 25	16.25
Big Swede Lookout	T30N R30W Sec 17	10
Big Creek Baldy Lookout	T33N R31W Sec 12	10
Black Butte Lookout	T36N R27W Sec 20	10
Blue Mountain Lookout	T32N R30W Sec 32	20
Bull River Bay Rec. Area	T26N R33W Sec 10	32.5
Bull River Ranger Station	T27N R32W Sec 7	79.28
Bunch Grass Flat Ranger Station	T35N R25W Sec 6	151.76
Cabinet Mountain Wilderness	T25N R31W Sec 1,2,3; T26N R30W Sec 19,30; T26N R31W Sec 2-18,21-28,33-36; T26N R32W Sec 1,12; T27N R31W Sec 5-8,16-21,28-34; T27N R32W Sec 1-3,10-16,21-27,35-36; T28N R31W Sec 6-7,18-19,30-32; T28N R32W Sec 1-29,35-36; T28N R33W Sec 1; T29N R32W Sec 3-11,14-24,26-35; T29N R33W Sec 1,11-15,22-27,34-36; T30N R32W Sec 5-8,16-22,25-36; T30N R33W Sec 1-2,10-15,23-26,36; T31N R32W Sec 29-32; T31N R33W Sec 25-26,35-36	94,596.76
Cabinet Ranger Station	T31N R34W Sec 2	159.31
Callahan Creek Ranger Station	T31N R34W Sec 23	160
Calx Mountain Lookout	T28N R28W Sec 10	10
Camp 32 Recreation Area	T36N R28W Sec 35	25
Caribou Creek Rec Area	T37N R30W Sec 21-22,28	12.5
Dorr Skeels	T29N R33W Sec 20	45.9
East Dickey Lake	T34N R25W Sec 14	7.62
Enco Development Corp.	T33N R34W Sec 26,27	240
Eureka Hydroelectric Co.	T35N R25W Sec 5,6	191
Fairview Ranger Station	T30N R27W Sec 22	160
Frank Lake Rec. Area	T35N R26W Sec 17	35.31
Garver Mountain Lookout	T37N R32W Sec 32	10
Glacier Silver Led Mn Co.	T29N R31W Sec 6,7,12	237.92
Grasshopper Ranger Station	T26N R33W Sec 3	107.8
Horse Hill Lookout	T28N R30W Sec 30,33	20

Name	Township (T), Range (R), Section (Sec.)	Acres
Horse Thief Ranger Station	T27N R33W Sec 4	10
Howard Lake Rec. Area	T27N R31W Sec 13	50
International Boundary	T37N R24W Sec 4; T37N R25W Sec 1,3,4; T37N R26W Sec 1-6; T37N R28W Sec 2-6; T37N R29W Sec 1-5; T37N R30W Sec 3,5; T37N R31W Sec 3-6; T37N R32W Sec 1-6; T37N R33W Sec 1-6; T37N R34W Sec 1; T37N R25W Sec 2,5,6; T37N R26W Sec 3; T37N R29W Sec 6; T37N R30W Sec 1,2,4,6; T37N R31W Sec 1; T37N R31W Sec 2; T37N R24W Sec 6	342.86
Jack Pine Flats Rec. Area	T22N R32W Sec 12	65
Kenelty Mountain Lookout	T27N R29W Sec 22	10
Kilbrennan Adm. Site	T33N R33W Sec 29	22.5
Kootenai Power Const.	T31N R32W Sec 18	184
Kootenai Power Const.	T31N R33W Sec 13	216.3
Lake Creek Campground	T26N R30W Sec 5,8	40
Lastchance Admin. Site	T32N R34W Sec 5,8	194.02
Libby Dam Project	T29N R27W Sec 17; T29N R29W Sec 4,22; T30N R26W Sec 3,4; T30N R27W Sec 22; T30N R29W Sec 4,8,18,34; T31N R26W Sec 5,8,16,20,27,28; T31N R29W Sec 1-4,8,10-12,15,16,22,27,28,32,34; T32N R26W Sec 5-8,17-20,29-32; T32N R28W Sec 5-8,18-19; T32N R29W Sec 1,10-15,22-28,34,35; T33N R25W Sec 1,6; T33N R26W Sec 1,12-14,21,22,27,28,33,34; T33N R28W Sec 7,17-21,27-30,32-34; T33N R29W Sec 2,3,10-13,24; T33N R29W Sec 11; T34N R25W Sec 20-22,25-29,31,32,35; T34N R29W Sec 1-4,10-12,14,15,22,23,26,27,34,35; T35N R28W Sec 4-7,30,31; T35N R29W Sec 1,11-14,23-26,33-36; T36N R28W Sec 2,3,9,10,12,15-17,20-22,28,29,31-33; T37N R27W Sec 30; T37N R28W Sec 12,13,24,25; T37N R28W Sec 26,35	43,423.17
Libby Ranger Station	T31N R31W Sec 34	80
Liberty Metals Co.	T30N R34W Sec 2,10,11,34	215
Loon Lake Rec. Site	T33N R32W Sec 25	10
Lower Big Therriault Lake	T37N R25W Sec 30	20
Lower Spar Lake Rec. Area	T29N R34W Sec 22	10
Marston Lookout	T35N R25W Sec 26	10
McGregor Lake	T26N R26W Sec 12	94.16
Montana Power Co.	T24N R31W Sec 15	85.04
Mount Henry Lookout	T36N R30W Sec 17	20
Mud Lake Lookout	T36N R28W Sec 25	40
Murphy Lake	T34N R25W Sec 5,8	71.88
Murphy Lake Admin. Site	T34N R25W Sec 6	20
North Dickey Lake	T34N R25W Sec 9	18.25
Noxon Admin Site	T26N R33W Sec 24	109.09
Olson Flat Admin. Site	T35N R32W Sec 3	45
Pacific Hydropower Co.	T33N R34W Sec 36	560
Paul Bunyan Rec. Area	T29N R30W Sec 30	45

Name	Township (T), Range (R), Section (Sec.)	Acres
Pete Creek Rec. Area	T35N R32W Sec 5	20
Pinkham Mountain Lookout	T33N R27W Sec 9	10
Pipecreek Ranger Station	T31N R31W Sec 2	80
Pleasant Valley Rec. Area	T26N R29W Sec 2	10
PSR 359	T25N R32W Sec 4	145.4
PSR 25	T24N R32W Sec 2,4,10,12,22,34	532.93
Raven Ranger Station	T26N R29W Sec 2	50
Redtop Creek Rec. Area	T35N R33W Sec 31	10
Rexford Ranger Station	T36N R28W Sec 21	40
Rock Lake Rec. Area	T35N R26W Sec 6	78.61
Rock Meadows Rec. Area	T26N R31W Sec 6,31,32	170
Rolling Rock Ranger Station	T27N R34W Sec 24	3.7
Ross Creek	T28N R34W Sec 12	20
Ross Creek Cedar	T28N R34W Sec 12	100
Scenery Mountain Lookout	T31N R32W Sec 29	10
Smith Mountain Lookout	T59N R3 Sec 32	10
South Dickey Lake	T34N R25W Sec 15	60.03
Stahl Peak Lookout	T37N R25W Sec 33	30
Sunday Mountain Lookout	T33N R25W Sec 29	10
Swamp Creek	T27N R30W Sec 11,12	50
Swamp Creek Ranger Station	T25N R31W Sec 20	60
Sylvan Lake Rec. Area	T25N R29W Sec 24	86.86
Sylvanite Admin. Site	T34N R33W Sec 9,16	116.8
Timberline	T32N R31W Sec 35	35
Trout Creek Admin. Site	T24N R31W Sec 6	105.83
Trout Creek Ranger Station	T24N R32W Sec 24	160
Troy Ranger Station	T31N R34W Sec 1	67.83
Turner Mt. Rec. Area	T33N R31W Sec 21	20
Turner Mt. Winter Sports	T33N R31W Sec 20	240
Turner Mtn. Ski Area	T33N R31W Sec 19,20,29	844.97
Twin Meadows Ranger Station	T32N R26W Sec 29	62
Upper.Ford Admin. Site	T36N R31W Sec 6,7,12	69.13
Upper Big Therriault Lake	T37N R25W Sec 29,32	60
Upper Spar Lake Rec. Area	T29N R34W Sec 16	20
Warland Ranger Station	T32N R29W Sec 27,34	76.63
Washington Water Power	T24N R31W Sec 15	126.05

Name	Township (T), Range (R), Section (Sec.)	Acres
Washington Water Power	T24N R32W Sec 2,5,12	191.36
Washington Water Power	T24N R33W Sec 1,11,12,14,15,20-22; T25N R32W Sec 4,9,10,16,22,27,28,31-34; T26N R32W Sec 20,33,34; T26N R33W Sec 5,6,8,10,14-16,23,24; T27N R33W Sec 30-32; T27N R34W Sec 9,21,25,27,28,32-34	2,637.26
Webb Mountain Lookout	T35N R29W Sec 10	10
West Bull Lake Rec. Area	T28N R33W Sec 4	27.3
White Pine Ranger Station	T23N R31W Sec 14	92.06
Whitetailcamp Expansion	T35N R32W Sec 6; T35N R33W Sec 1; T36N R32W Sec 31; T36N R33W Sec 36	55.31
Whitetail Creek Rec. Area	T35N R33W Sec 1	67.1
Willow Creek	T24N R29W Sec 3,4	20
Wm. Park Mills Pr. Project	T25N R29W Sec 32	150
Wm. Park Mills Pr. Project 11-Oct-1920	T24N R30W Sec 1	80
Wolf Creek Ranger Station	T29N R27W Sec 20	80
Yaak Falls Rec. Area	T33N R33W Sec 9	20
Yaak Mountain Lookout	T32N R34W Sec 2	10
Ziegler Mountain Lookout	T33N R28W Sec 31	10
Data Unavailable	T27N R34W Sec 21,34	34.77
Data Unavailable	T31N R33W Sec 14,15	352.58

Source: Bureau of Land Management

* = Data Not Available

Appendix E—Reasonable and Prudent Measures and Terms and Conditions for Grizzly Bear and Canada Lynx

The Biological Opinion for the Revised Land and Resource Management Plan (Forest Plan) for the Kootenai National Forest (USDI Fish and Wildlife Service, August 28, 2013) contained the following reasonable and prudent measures and terms and conditions for grizzly bear and Canada lynx.

Grizzly Bear

Reasonable and Prudent Measures

Biological opinions typically provide reasonable and prudent measures that are expected to reduce the amount of incidental take. Reasonable and prudent measures are those measures necessary and appropriate to minimize incidental take resulting from a proposed action. Reasonable and prudent measures are nondiscretionary and must be implemented by the agency in order for the exemption in section 7(o)(2) to apply.

The Service concludes that the Forest has incorporated all practical measures possible into the proposed action to minimize the impacts of take on grizzly bears. For that reason, the Service has not identified any Reasonable and Prudent Measures necessary to further minimize the impacts of such take on the grizzly bears. However, the Service has identified mandatory reporting and monitoring requirements below as Terms and Conditions that must be complied with in order for the take exemption in this Incidental Take Statement to be valid.

It is critical to understand that the conclusion of this opinion is based on those features being implemented as part of the proposed action; if they are not implemented, our analysis may not remain valid and this opinion may be subject to reinitiation (50 CFR 402.16(3)).

Terms and Conditions

The Forest shall conduct monitoring and reporting of incidental take as follows:

1) By April 15 each year, the KNF shall submit an annual report to the Service that details the progress made toward achieving and maintaining the standards for percent Core Area, OMRD, and TMRD within the Recovery Zones.
2) The annual report shall provide an ongoing list detailing the locations, dates, duration, and circumstances for invoking the Access Amendment allowance for entering core area for the purposes of road decommissioning or stabilizations.
3) The KNFs shall coordinate with State and Federal agency biologists to collect credible grizzly bear observations that occur outside of the Recovery Zone boundaries and add this information to the 6th-order HUC database for inclusion into the annual report.
4) During the first year of implementation of the Revised Forest Plan, the Forest and the Service shall cooperatively develop a plan to monitor the scope and magnitude of late-season snowmobiling (post April 15) as it relates to effects on post-den emergent grizzly bears (see Incidental Take Statement). Within five years of implementation of the Revised Forest Plan, the Forests shall complete a winter travel plan, which will include considerations for grizzly bear and other federally listed species.
5) The Forest shall notify the Grizzly Bear Recovery Coordinator or Service’s Montana Field Office within 24 hours of any bear-human conflicts that occur on the Forest, regardless of cause or season.

Canada Lynx

Reasonable and Prudent Measures

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of lynx:

RPM #1: The Forest shall minimize harm of lynx from fuels management by ensuring that the acres impacted are not concentrated in a geographic area or several adjacent LAUs.

RPM #2: The Forest shall minimize harm of lynx from pre-commercial thinning and other vegetation management projects by ensuring that female lynx home ranges, as represented by LAUs, either retain sufficient foraging habitat (when sufficient foraging habitat already exists in an LAU) or does not substantially reduce foraging habitat (when sufficient foraging habitat does not already exist in an LAU).

RPM #3: The Forest shall monitor and report the progress of the action and the impact on the species.

These reasonable and prudent measures, with their implementing terms and conditions (below), are designed to minimize the impact of incidental take that might otherwise result from the proposed action, and to ensure that the level of take exempted in this incidental take statement is not exceeded.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, the Forest must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline reporting and monitoring requirements. These terms and conditions are non-discretionary.

The following terms and conditions implement reasonable and prudent measure #1:

The Forest Service shall ensure that fuels management projects conducted under the exemptions from standards VEG S1, S2, S5 and S6 on the KNF:

8. Do not occur in greater than 57,052 acres in the WUI.
9. Do not result in more than 3 adjacent LAUs not meeting the VEG S1 standard of no more than 30 percent of an LAU be in SISS.

The following term and conditions implement reasonable and prudent measure #2:

The Forest Service shall ensure that vegetation management projects conducted under exceptions to VEG S5 and S6 on the KNF:

10. Do not occur in greater than 11,862 acres.
11. In lynx habitat on the KNF, precommercial thinning and vegetation management projects allowed per the exceptions listed under VEG S5 and S6, shall not occur in any LAU exceeding VEG S1, except for protection of structures.

The following term and conditions implement reasonable and prudent measure #3:

12. In support of the monitoring and reporting requirements of the NRLMD, the KNF shall provide to the Service and the Forest Service Northern Region (Region 1) Office in Missoula, summaries of the reporting requirements listed below. The summaries shall document the following information related to fuel treatment and vegetation management projects occurring in lynx habitat:
    a. Individual vegetation management projects conducted in lynx habitat under the exemptions and exceptions to the vegetation standards VEG S1, S2, S5 and S6 of the NRLMD may reduce the

quality or quantity of snowshoe hare habitat, but not all will result in a detectable, measurable effect to lynx (i.e. may affect, but not likely to adversely affect). This type of project may occur many times over the life of the proposed action. The acres impacted by these projects will be reported and the total aggregated to ensure that over the life of the revised Forest Plan, the number of acres impacted does not exceed the acres projected to be treated and the effects analyzed in our biological opinion.

For the projects that are likely to result in detectable and measurable effects to lynx (and our biological opinion's analysis found may rise to the level of take) the acreages will also be tracked and aggregated to ensure that they do not exceed the number of acres used as a surrogate for take of lynx. This approach to tracking and monitoring ensures that the proposed action is implemented as proposed and is consistent with our analysis. In addition, given the long timespan of the proposed action, this process provides information that can help determine whether consultation reinitiation ever becomes necessary.

Thus report as follows:

The BA prepared for each proposed project shall include a report of the acres to be treated under the exemptions and/or exceptions from the vegetation management standards VEG S1, S2, S5, and S6. The report shall also include the total acres treated likewise on the Forest as a whole, to date. This total shall include the acres in the proposed project, other projects that have signed decisions (including those that have been completed), and those projects that have completed section 7 consultations.

b. In addition, each BA shall report whether or not the project met any applicable Revised Plan guidelines for lynx. If guidelines were not met, provide rationale as to why they could not be met.

c. To ensure that term and condition 2 is met, report in each project level biological assessment, any two, adjacent LAUs that have more than 30 percent of lynx habitat in SISS, either because of natural events, vegetation management or fuel treatment projects, or any combination of these or other causes.

d. To ensure that term and condition 4 is met, report on the KNF by LAU, of lynx habitat treated through precommercial thinning or other vegetation management projects as allowed in VEG S5 and S6; record the type of activity, acres, location and whether or not standard VEG S1 was adhered to.

e. The KNF shall report this project level monitoring information, at the time the project decision is signed, to the designated Forest Service office with responsibility for maintaining an accurate accounting of reports. This data will be used in the annual report as required under the 2007 NRLMD biological opinion.